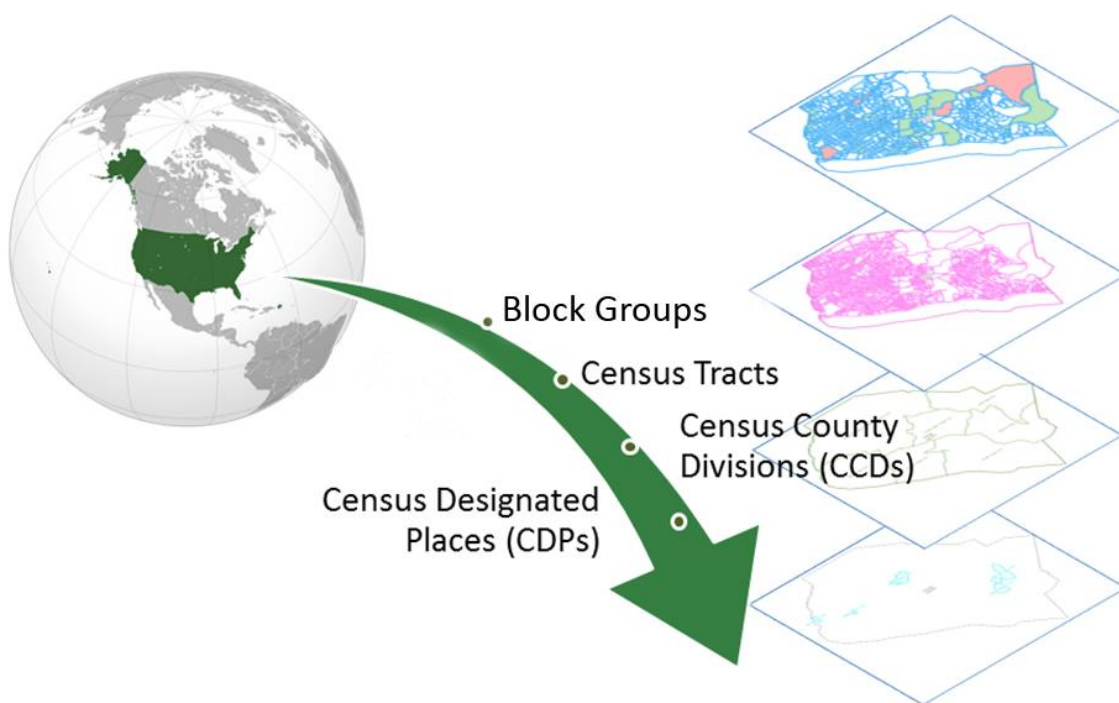


2020 Census Participant Statistical Areas Program (PSAP) Verification Respondent Guide

Instructions for Participants with Standard Statistical Geographies

November 2019



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INTRODUCTION

A. General Information

The U. S. Census Bureau completed processing of the 2020 Census Participant Statistical Areas Program (PSAP) delineation phase submissions and is now ready to begin the 2020 Census PSAP verification phase. The verification phase provides an opportunity to ensure the 2020 statistical areas are acceptable and reflect the edits made by participants and the Census Bureau during the delineation phase. It serves as the final review of the statistical areas used to tabulate the results of the 2020 Census, the American Community Survey (and Puerto Rico Community Survey), the Economic Census, and potentially other census surveys.

In some instances the Census Bureau revised participants' delineation phase submissions in order to meet established criteria and guidelines. For that reason, participants are encouraged to conduct a thorough review of the current 2020 statistical areas to determine if they work for the tabulation and distribution of statistical data and to provide corrections where needed. Participants can compare the current 2020 statistical area boundaries and attributes with the information submitted during the delineation phase or conduct a complete review without making a comparison to their delineation phase submission.

Note:	Participant revisions to the 2020 statistical areas during the verification phase, that were not provided during the delineation phase, will be considered based on the scope of the revision, their merit for analytical purposes, and their adherence to the established criteria and guidelines.
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The Census Bureau requests participants use TIGERweb to review the 2020 statistical areas applicable to their county(s)¹ and to use the Geographic Update Partnership Software (GUPS) to make corrections where needed. The statistical areas eligible for review are census tracts, block groups, census designated places (CDPs), and census county divisions (CCDs). Please be aware CCDs only exist in the following 21 states: Alabama, Alaska (referred as census subarea), Arizona, California, Colorado, Delaware, Florida, Georgia, Hawaii, Idaho, Kentucky, Montana, Nevada, New Mexico, Oklahoma, Oregon, South Carolina, Texas, Utah, Washington, and Wyoming.

¹ For Census Bureau purposes, the term "county" includes municipios in the Commonwealth of Puerto Rico; parishes in Louisiana; boroughs, city and boroughs, municipalities, and census areas in Alaska; independent cities in Maryland, Missouri, Nevada, and Virginia; districts and islands in American Samoa, and districts in the U.S. Virgin Islands; municipalities in the Commonwealth of the Northern Mariana Islands; and the areas constituting the District of Columbia and Guam. Henceforth in this document, the terms "county" or "counties" will refer to all of these entities.

IMPORTANT: The verification phase provides the only opportunity for participants to review CDPs modified or created during the delineation phase. Locate the file that lists the new CDPs created since the delineation phase on the PSAP website. Please review the CDPs within the counties listed on the verification announcement to ensure each CDP captures the extent of the community it seeks to define (i.e., review the boundary) and is identified by the name locally used for that community (i.e., review the CDP name).

For navigating the various products and software for PSAP verification, it is helpful to understand the unique entity identification codes used by the Census Bureau for counties. These codes appear on the verification announcement, in the file names for the Online Portable Document Format (PDF) maps of census tracts, and within GUPS.

The entity identification code for counties uses the two digit state Federal Information Processing Series (FIPS) code concatenated with the three-digit county FIPS code. For example, 27123 is the five-digit FIPS code for Ramsey County, Minnesota, where 27 is the two-digit state FIPS code for Minnesota and 123 is the three-digit county FIPS code for Ramsey County.

B. 2020 Census PSAP Schedule

Below is the 2020 Census PSAP schedule that includes past, ongoing, and upcoming activities.

Table 1: 2020 Census PSAP Schedule

Dates	Event
March-May 2018	Census Bureau contacted 2010 Census PSAP participants to inquire about 2020 Census PSAP participation. ✓
July 2018	Census Bureau distributed 2020 Census PSAP invitation materials to 2020 Census PSAP participants. ✓
January 2019	2020 Census PSAP delineation phase began. Participants had 120 calendar days to submit updates. ✓
January-February 2019	Census Bureau conducted 2020 Census PSAP delineation phase webinar trainings. ✓
July 2019	Census Bureau conducted closeout of the 2020 Census PSAP delineation phase. ✓
January 2020	2020 Census PSAP verification phase begins. Participants have 90 calendar days upon receipt of verification announcement to review the 2020 statistical areas and submit corrections. ✓
April 2020	2020 Census PSAP verification phase ends.
September 2020	Census Bureau plans to conduct closeout of the 2020 Census PSAP verification phase.
November 2020 – February 2021	On a flow basis, beginning in November 2020 through February 2021, the 2020 statistical areas become available for public use.

C. Training and Support

The Census Bureau provides assistance by answering questions; clarifying criteria, guidelines and procedures; and by providing information concerning specific situations that participants encounter when reviewing and verifying their 2020 statistical areas. A pre-recorded verification phase training video/demonstration is available on the PSAP website for participants to utilize as an on-demand training tool. The verification phase training video/demonstration provides an overview of the verification phase and of the updated PSAP website. It provides information on the following topics:

- Reviewing 2020 statistical areas.
- Making corrections to 2020 statistical areas.
- Submitting corrections to 2020 statistical areas.

The verification training video/demonstration does not include the detailed steps for using GUPS that are included in the delineation phase training materials; therefore, all of the delineation phase training materials (e.g., Standard GUPS presentation, script, and webinar recording) remain on the PSAP website for participants' use. No training webinars are planned for the verification phase.

IMPORTANT: It is vital that participants use all of the existing training materials as they begin their verification phase review and potential corrections of 2020 statistical areas.

For questions concerning technical matters with the GUPS application or specific programmatic questions, support from the Census Bureau is available by phone at 1-844-788-4921 or by email at [<geo.psap@census.gov>](mailto:geo.psap@census.gov).

D. Respondent Guide Organization

This respondent guide consists of three parts: *Reviewing 2020 Statistical Areas*, *Correcting 2020 Statistical Areas*, and *Submitting Corrections to the 2020 Statistical Areas*. It includes information to enhance the instructions and details provided in the *2020 Census PSAP Standard Respondent Guide (G-730)*, created for use in the delineation phase, as well as new or updated information applicable to the verification phase.

For an overview of the 2020 statistical areas as well as the GUPS basics, participants must refer to the *2020 Census PSAP Standard Respondent Guide (G-730)*. Participants will also need to navigate the PSAP website, [<https://www.census.gov/programs-surveys/decennial-census/about/psap.html>](https://www.census.gov/programs-surveys/decennial-census/about/psap.html), to review other program materials such as the Quick Reference Guides for their specific statistical geographies, the Quick Program Guide, and the training materials.

As with the delineation phase respondent guide, two styles are implemented within this guide. The first provides specific instructions through “Step – Action and *Result*” tables. In these tables, the Action is usually a command or action to perform and the *Result(s)* of the action are

written in *italics*. For an example, the action “Double-click the icon” has the *result* of “*and the program automatically launches.*” The second is the use of **bold, blue colored font** to denote the presence of a cross-referenced hyperlink to other sections, figures, tables, or appendices. To skip directly to the linked item, use the Ctrl key and click the left mouse button while hovering over the **bold blue words**. The “Table 2” in section 2.1 is the first cross-referenced hyperlink in this document.

IMPORTANT: At the time of creation of this respondent guide, the PSAP website, TIGERweb, GUPS, and the Online PDF maps of census tracts are in the final stages of development. As a result, the screenshots within this document may vary slightly from the final versions released to support the verification phase. While the examples may differ slightly, the overall instruction, action, and result remain consistent with what is anticipated with the final versions.

PART 1 REVIEWING 2020 STATISTICAL AREAS

Reviewing the 2020 statistical areas to determine if any corrections are necessary is the first step of the verification phase. With 90 calendar days to conduct the review, it is important to begin your review as soon as possible after receipt of the verification announcement.

IMPORTANT: A participant's focus should remain on whether the existing 2020 statistical areas work for the tabulation and distribution of statistical data and whether the census tract codes are consistent with long established census tract coding plans.

The chapters within this part of the respondent guide discuss the following:

- Identifying a plan for conducting verification.
- Reviewing the 2020 statistical areas using TIGERweb to verify if the statistical area boundaries and attributes (e.g., census tract codes, block group codes, CDP names, and CCD names) align with expectations.
- Using the Online PDF maps, instead of, or in addition to, TIGERweb, to review the census tract codes.
- Detailing the email notification requested from participants to inform the Census Bureau of their intentions to make corrections or to approve the existing 2020 statistical areas.

CHAPTER 1 IDENTIFYING A PLAN FOR CONDUCTING VERIFICATION

The Census Bureau strongly recommends reviewing the current 2020 statistical area boundaries and attributes using TIGERweb to determine if they serve your county(s) for the tabulation and distribution of statistical data. Because time is a factor during verification, the Census Bureau recommends prioritizing the verification review as follows:

1. First, ensure a review of the census tract updates;
2. Then review the block group updates;
3. Then review new CDPs and any updates submitted for existing CDPs, if applicable. A list of new CDPs is available on the PSAP website beneath the **2020 Census PSAP Verification Materials** section within the **Additional Review Materials** sub-section.
4. Conclude with a review of CCDs, if applicable in your state.

If a long-established census tract coding pattern exists within the county(s) for review, conduct a complete county review of the census tract coding to ensure the pattern is maintained. As census tract splits and merges occur, the codes assigned by GUPS and processed during the delineation phase may not follow the established pattern. Participants can conduct this census tract coding review using TIGERweb or Online PDF maps. More details on both of those review tools is in upcoming chapters.

Participants that made specific boundary and attribute updates during the delineation phase may wish to conduct a review of those specific updates to determine if the Census Bureau applied those changes. They can do so by using TIGERweb Web Mapping Service (WMS), and TIGERweb Representational State Transfer (REST) Services described in the next chapter to pull the Current vintage into their own web mapping service or GIS for comparison.

The most common reason delineation phase updates were not applied relates to the improper application of guidelines or adherence to criteria for each specific statistical geography. If updates were made during delineation that resulted in statistical areas not complying with minimum criteria or not following the guidelines for the specific statistical area, and an adequate justification for the update was not supplied, the Census Bureau did not make those updates. Resupplying that change as a correction during the verification phase will likely result in the same outcome (i.e., the Census Bureau not accepting the correction to the statistical area).

If you determine a **significant amount of updates** were not applied and have questions about why the updates were not applied, please contact the Census Bureau by email at [<geo.psap@census.gov>](mailto:geo.psap@census.gov) or by phone at 1-844-788-4921 so they can research the county and provide you with background information from the delineation phase processing. Do not proceed with resubmitting delineation phase updates that were not applied to the 2020 statistical areas, or with making significant corrections to the statistical areas until a conversation with the Census Bureau occurs. They will provide instruction and guidance on how, or if, to proceed with making corrections.

CHAPTER 2 USING TIGERWEB TO REVIEW 2020 STATISTICAL AREAS

TIGERweb was first introduced as a supplemental source for use during the delineation phase. The *2020 Census PSAP Standard Respondent Guide (G-730)* includes *Appendix E* that provides tables with guidance for using TIGERweb to compare the 2010 statistical areas with the proposed 2020 statistical areas. For the verification phase, use the information in this chapter, in association with the guidance from *Appendix E* in the delineation phase respondent guide and the *TIGERweb User Guide* available within TIGERweb, to conduct a review of your 2020 statistical areas.

TIGERweb is a web-based system that allows users to visualize the Topologically Integrated Geographic Encoding and References system and database (TIGER) data in three ways: TIGERweb Applications, TIGERweb WMS, and TIGERweb REST Services.

The TIGERweb Applications choice allows users to select features and view their attributes, to search for features by name or geocode, and to identify features by selecting them from a map. It provides a simple way to view TIGER data without Geographic Information System (GIS) software and without downloading data. It uses the TIGERweb REST Services to provide an online, web-based method for reviewing the TIGER data.

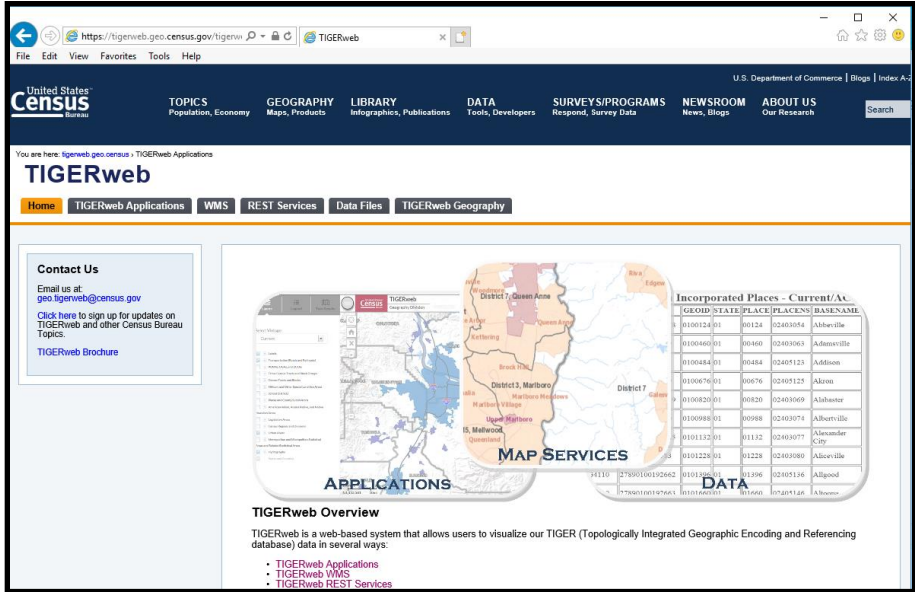
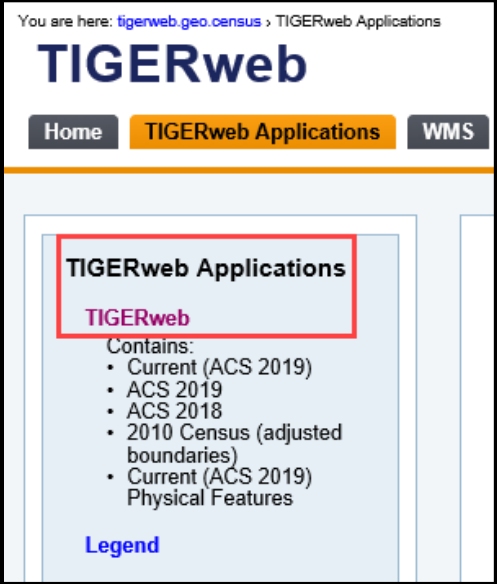
TIGERweb WMS and TIGERweb REST Services allow users to integrate census data into their own GIS or custom web-based application. Find more information about TIGERweb within the online documentation on its website:

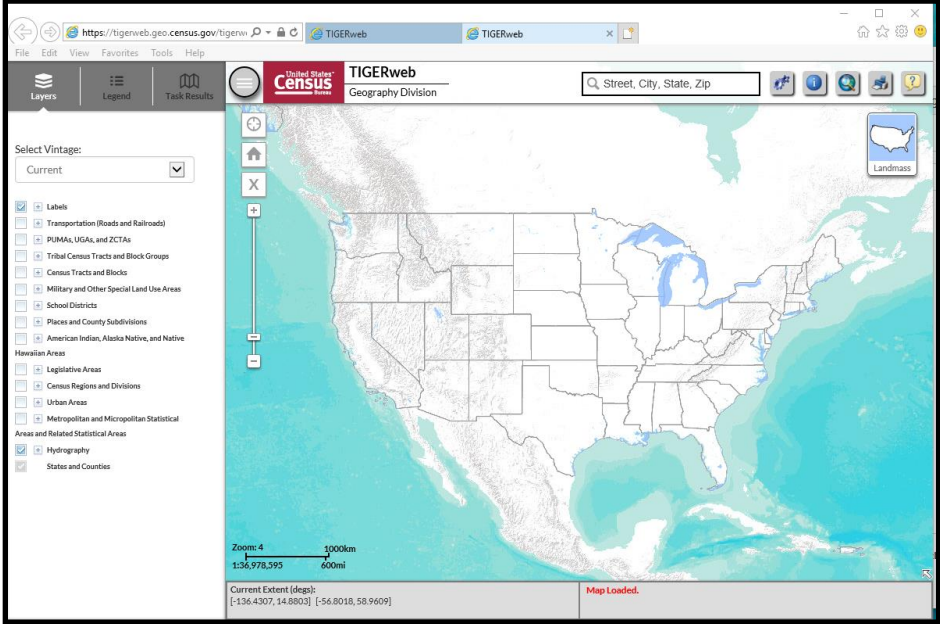


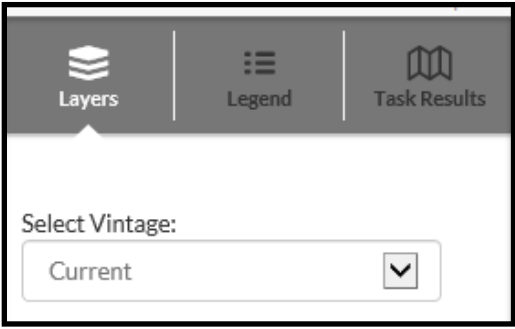
[<https://tigerweb.geo.census.gov/tigerwebmain/TIGERweb_main.html>](https://tigerweb.geo.census.gov/tigerwebmain/TIGERweb_main.html).

2.1 TIGERweb Applications

See [Table 2](#) for an example of using TIGERweb online map viewer to review county-based 2020 statistical areas. Refer to [Appendix A](#) for instructions on using the TIGERweb online map viewer to compare the 2020 statistical areas to the 2010 statistical areas.

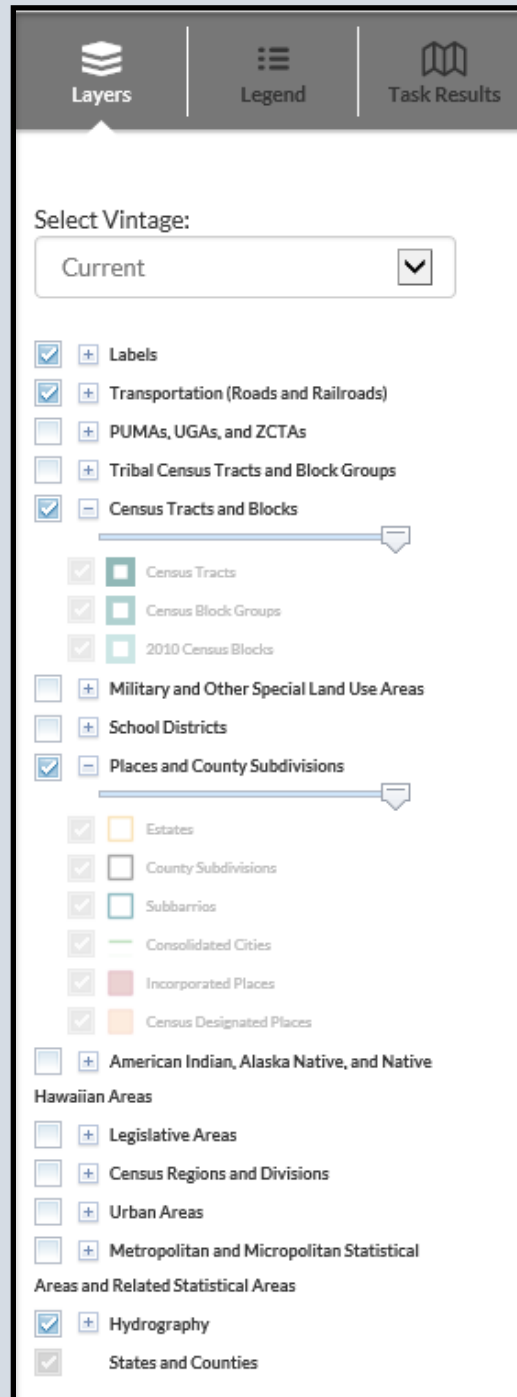
Table 2: Using the TIGERweb Online Map Viewer

Step	Action and Result
Step 1	<p>Open a new internet browser window and navigate to the TIGERweb website <https://tigerweb.geo.census.gov/tigerwebmain/TIGERweb_main.html>. The TIGERweb main page appears.</p>  <p>Note: A link to TIGERweb is also available on the PSAP website.</p>
Step 2	<p>Click the TIGERweb Applications tab to the right of the Home tab, then TIGERweb along the left side of the screen. Do not select TIGERweb Decennial or TIGERweb Economic Census.</p> 


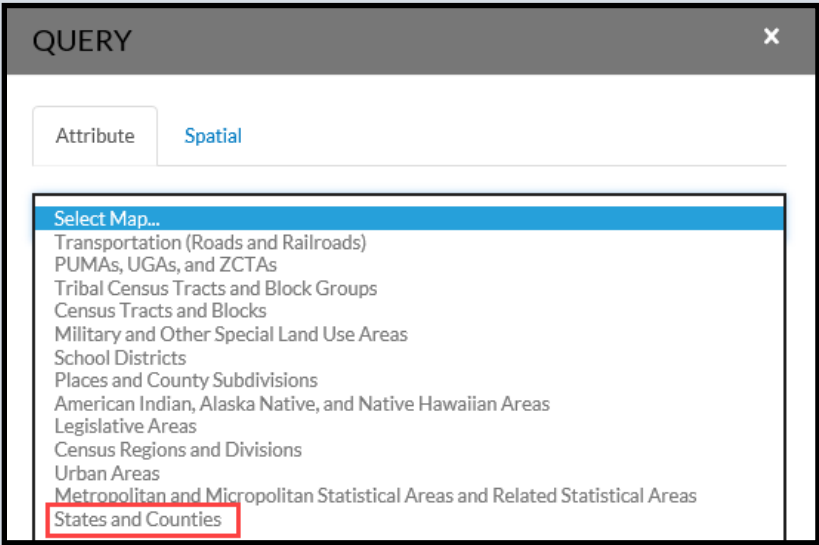
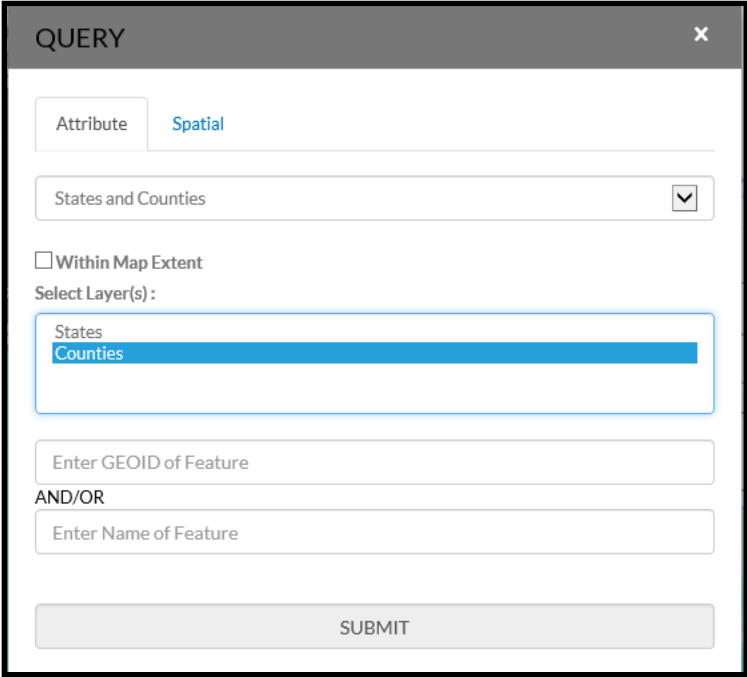
Step	Action and Result
Step 3	<p>The <i>TIGERweb</i> online map viewer application launches.</p> 
	<p>Access the <i>TIGERweb</i> User Guide from the Help/About button in the upper right corner of the screen after launching TIGERweb or along the left side of the screen within the TIGERweb Applications tab.</p> 
Step 4	<p>With the Layers tab active, ensure the Select Vintage section is set, and remains set, to Current. Note: Even though the 2020 statistical areas are included in the Current vintage and made available to the public through TIGERweb, they are not yet used in most data products since they will not be finalized until after the verification phase concludes.</p>  <p>IMPORTANT: Refer to <i>Table 63</i> and <i>Table 64</i> in <i>Appendix E</i> of the <i>2020 Census PSAP Standard Respondent Guide (G-730)</i> for background on the map display, navigation tools, Layers panel, legend, and tools. The remaining steps in this table assume familiarity with TIGERweb and its functionality that is defined in the aforementioned respondent guide.</p>

Step 5


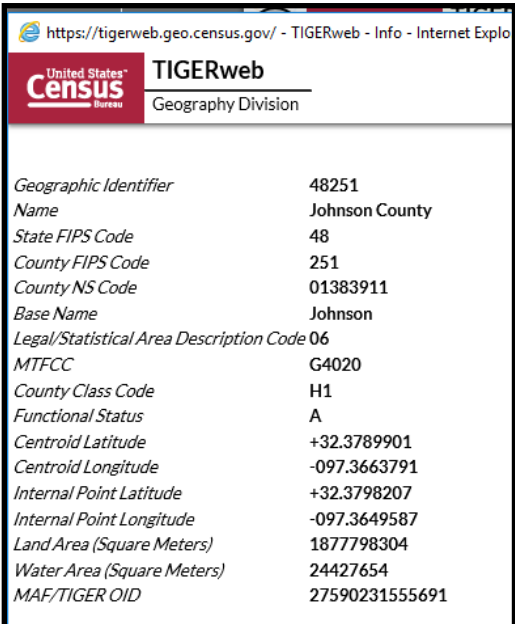

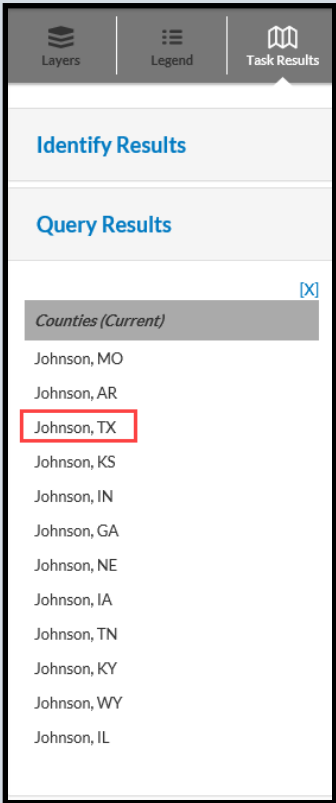
Check the **Census Tracts and Blocks** layer and the **Places and County Subdivisions** layer in the **Layers** panel. These two layers contain the 2020 statistical areas for census tracts, block groups, CDPs, and CCDs. Check the **Transportation (Roads and Railroads)** layer to assist with the review. Ensure the **Labels** layer and **Hydrography** layer remain checked.

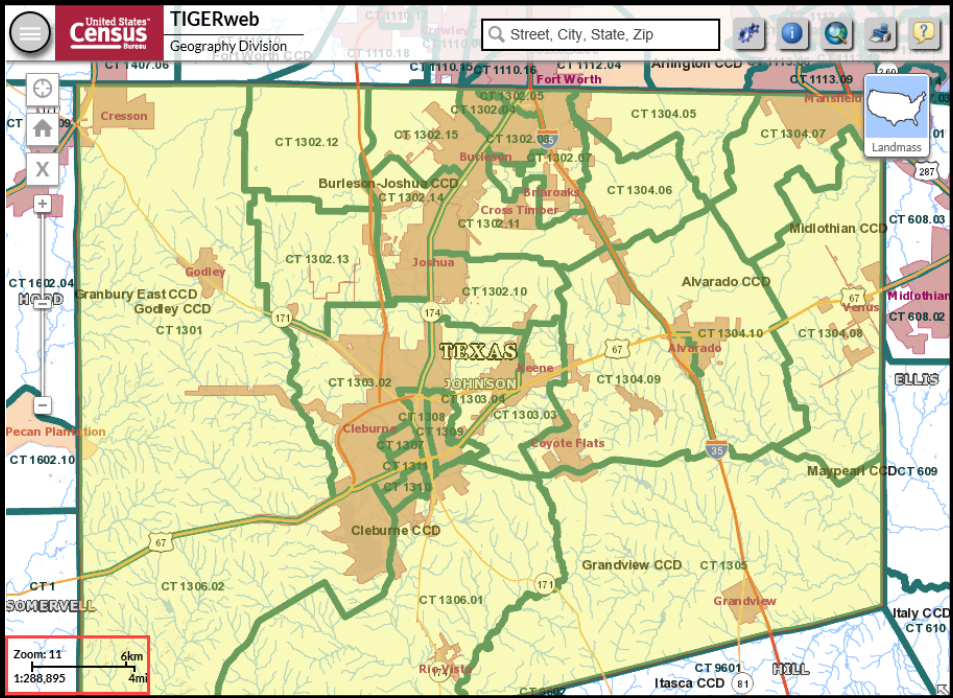


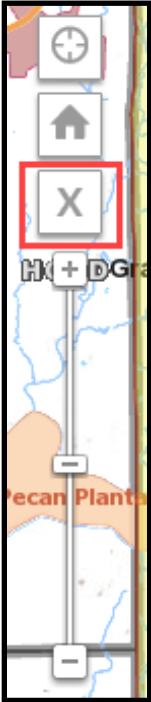
Note: Because geographic and locational context and relationships are important, TIGERweb determines which geographic entities and features may be visible based on the map scale. Participants can turn on/off layers in the **Layers** panel which limits the amount of data on the map that appear at a given scale. Additionally, when multiple layers display, one layer may obscure another. Change the transparency of the layer by moving the sliding bar beneath each layer name to the left or right. The **Census Tracts and Blocks** layer and the **Places and County Subdivisions** layer in the image above show the slide bar.

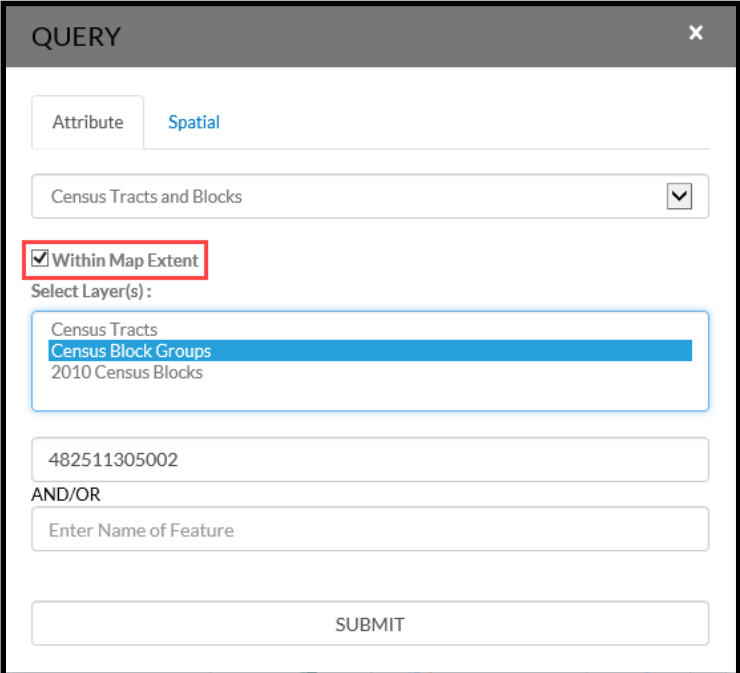
Step	Action and Result
Step 6	<p>Manually zoom in or use the Query tool to zoom to the extent of the county to review.</p> 
Step 7	<p>Within the Query tool, ensure the Attribute tab is active. Choose States and Counties from the Select Map... drop-down menu.</p> 
Step 8	<p>Select Counties within the Select Layer(s) section.</p> 

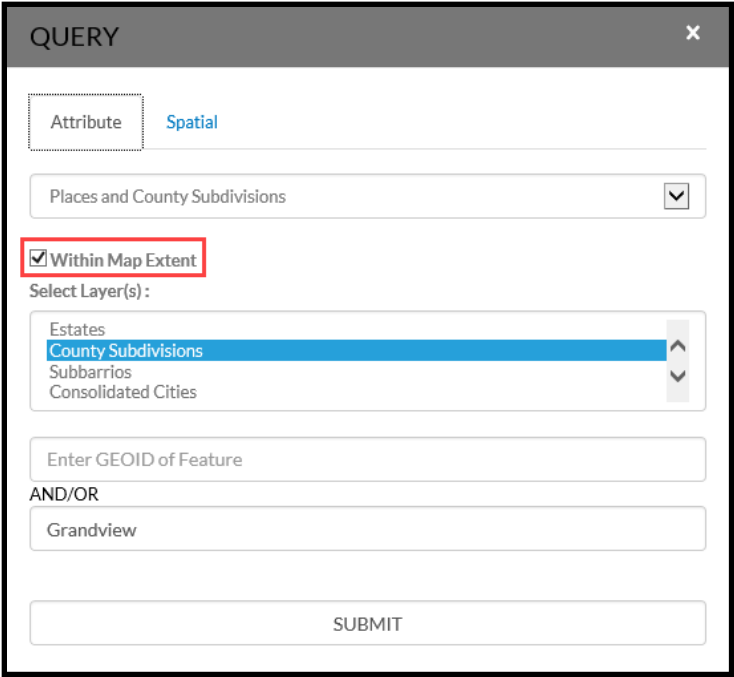

Step	Action and Result
<p>Step 9</p>	<p>Type all, or part of, the name of the county in the Enter Name of Feature section AND/OR all, or part of, the five digit state and county FIPS code, as described in Section A, in the Enter GEOID of Feature section. Click SUBMIT.</p> <p>Note: The state and county FIPS code(s) are listed at the end of the verification announcement.</p> <div data-bbox="496 380 1201 1035"> </div> <p>The map display zooms to the extent of the county and the name of the county name and state abbreviation appears in the Query Results section of the Task Results tab along the left side of the screen.</p> <div data-bbox="383 1161 1318 1780"> </div>

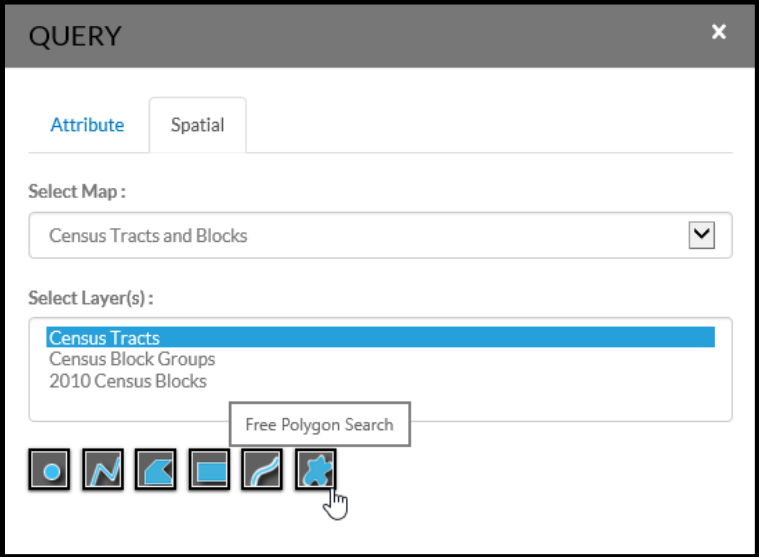
Step	Action and Result																																				
	<p>Clicking the county name in the Query Results section launches a TIGERweb – Info window with basic census and geographic information about the county and selects the county in the map display.</p>  <table border="1"> <thead> <tr> <th colspan="2">TIGERweb Geography Division</th> </tr> </thead> <tbody> <tr><td>Geographic Identifier</td><td>48251</td></tr> <tr><td>Name</td><td>Johnson County</td></tr> <tr><td>State FIPS Code</td><td>48</td></tr> <tr><td>County FIPS Code</td><td>251</td></tr> <tr><td>County NS Code</td><td>01383911</td></tr> <tr><td>Base Name</td><td>Johnson</td></tr> <tr><td>Legal/Statistical Area Description Code</td><td>06</td></tr> <tr><td>MTFCC</td><td>G4020</td></tr> <tr><td>County Class Code</td><td>H1</td></tr> <tr><td>Functional Status</td><td>A</td></tr> <tr><td>Centroid Latitude</td><td>+32.3789901</td></tr> <tr><td>Centroid Longitude</td><td>-097.3663791</td></tr> <tr><td>Internal Point Latitude</td><td>+32.3798207</td></tr> <tr><td>Internal Point Longitude</td><td>-097.3649587</td></tr> <tr><td>Land Area (Square Meters)</td><td>1877798304</td></tr> <tr><td>Water Area (Square Meters)</td><td>24427654</td></tr> <tr><td>MAF/TIGER OID</td><td>27590231555691</td></tr> </tbody> </table>	TIGERweb Geography Division		Geographic Identifier	48251	Name	Johnson County	State FIPS Code	48	County FIPS Code	251	County NS Code	01383911	Base Name	Johnson	Legal/Statistical Area Description Code	06	MTFCC	G4020	County Class Code	H1	Functional Status	A	Centroid Latitude	+32.3789901	Centroid Longitude	-097.3663791	Internal Point Latitude	+32.3798207	Internal Point Longitude	-097.3649587	Land Area (Square Meters)	1877798304	Water Area (Square Meters)	24427654	MAF/TIGER OID	27590231555691
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Water Area (Square Meters)	24427654																																				
MAF/TIGER OID	27590231555691																																				
	<p>If a county name (or partial county name) repeats among states, the query returns all counties with that name in the Query Results section of the Task Results tab. Click the correct county to review and TIGERweb zooms to the spatial extent of that county.</p>  <p>Identify Results</p> <p>Query Results</p> <p>Counties (Current) [X]</p> <ul style="list-style-type: none"> Johnson, MO Johnson, AR Johnson, TX Johnson, KS Johnson, IN Johnson, GA Johnson, NE Johnson, IA Johnson, TN Johnson, KY Johnson, WY Johnson, IL 																																				

Step	Action and Result
Step 10	<p>Continue to zoom in using either the Zoom In scrollbar or the rollerball on the mouse to visualize the statistical area boundaries and features used to form the boundaries. At the county extent, statistical area boundary review is likely impossible, so continue to zoom in and pan around the county to manually view the statistical area boundaries and attributes to verify they align with expectations.</p> <p>IMPORTANT: While the census tract coding can be reviewed using TIGERweb, the Census Bureau also created Online PDF maps for each county for the sole purpose of reviewing the 2020 census tract coding. The Census Bureau encourages the use of both TIGERweb and the Online PDF maps to conduct a thorough verification review for each county. Refer to Chapter 3 for details on that map product.</p>
	<p>The Scale Bar at the bottom left of the map display displays the scale, but it also indicates the zoom level in the form of numbers. <i>At zoom level 6, county boundaries become visible. At zoom level 9, census tracts, CDPs/incorporated places, and CCDs appear. Labels appear at zoom level 11.</i></p>  <p>The screenshot shows the TIGERweb interface with a map of Texas. The map displays various statistical area boundaries and labels, including county names like CROSSLAND, JOHNSON, and TEXAS. The scale bar at the bottom left indicates a zoom level of 11 and a scale of 1:288,895. The map also shows a search bar at the top and a zoom level indicator on the left side.</p>

Step	Action and Result
Step 11	<p>To start a new query or refresh the screen, click Clear Map (button with an “X”) on the navigation toolbar above the Zoom-In scrollbar. <i>The TIGERweb – Info window disappears and the located entity is no longer highlighted.</i></p>  <p>The image shows a vertical navigation toolbar. At the top are three buttons: a circular arrow (refresh), a house (home), and a square with an 'X' (clear map). The 'X' button is highlighted with a red rectangular box. Below these are map controls including a 'Full Screen' button, a 'Zoom-In' scrollbar with a '+' button, and a 'Zoom-Out' button with a '-' sign. The background shows a map with a river and a label 'Pecan Plant'.</p>

Step	Action and Result
Step 12	<p>IMPORTANT: The Query tool can also be used to query within the map extent (the extent of the county zoomed from the previous steps) and zoom to individual census tracts, block groups, CDPs and CCDs.</p> <p>With TIGERweb zoomed to the extent of the queried county, change the Select Map... selection from States and Counties to Census Tracts and Blocks (for census tracts and block groups), check the Within Map Extent checkbox, then select the appropriate layer within the Select Layer(s) section, and key the appropriate GEOID or Name. The GEOID for census tracts and block groups is the state and county FIPS code concatenated with the census tract (and block group) codes.</p> <p>To zoom into census tract 1305.00 in Johnson County, Texas, with the map zoomed to the spatial extent of Johnson County Texas, change the Select Map... section from States and Counties to Census Tracts and Blocks, check the Within Map Extent checkbox, select Census Tracts in the Select Layer(s) section, key 48251130500 into the GEOID field and click SUBMIT. <i>TIGERweb zooms to the spatial extent of census tract 1305.00 within Johnson County, Texas.</i></p> <p>To zoom to block group 2 of census tract 1305.00, with the map zoomed to the spatial extent of census tract 1305.00, change the layer to Census Block Groups, key 482511305002 into the GEOID field, and click SUBMIT. <i>TIGERweb zooms to the spatial extent of block group 2 of census tract 1305.00 within Johnson County, Texas.</i></p> 

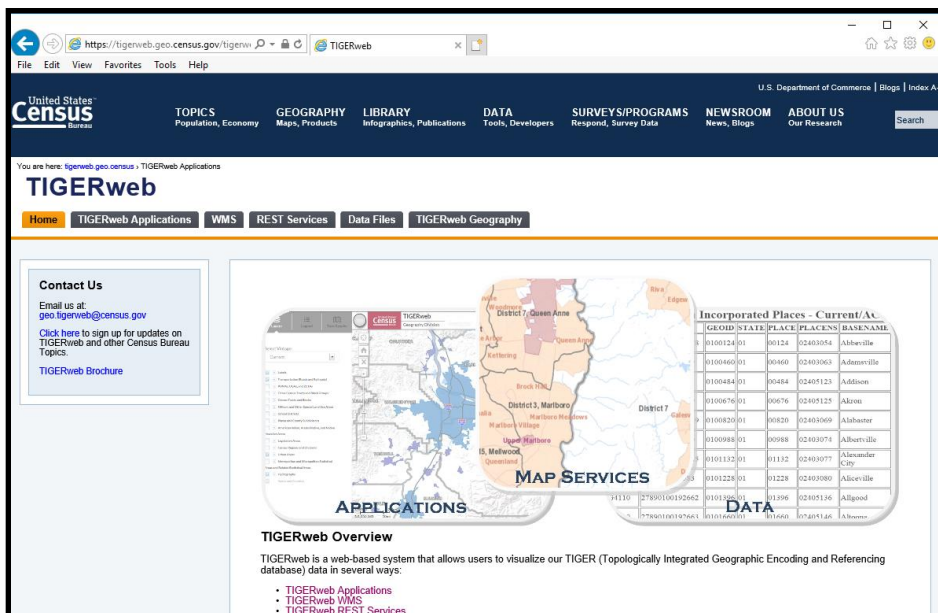
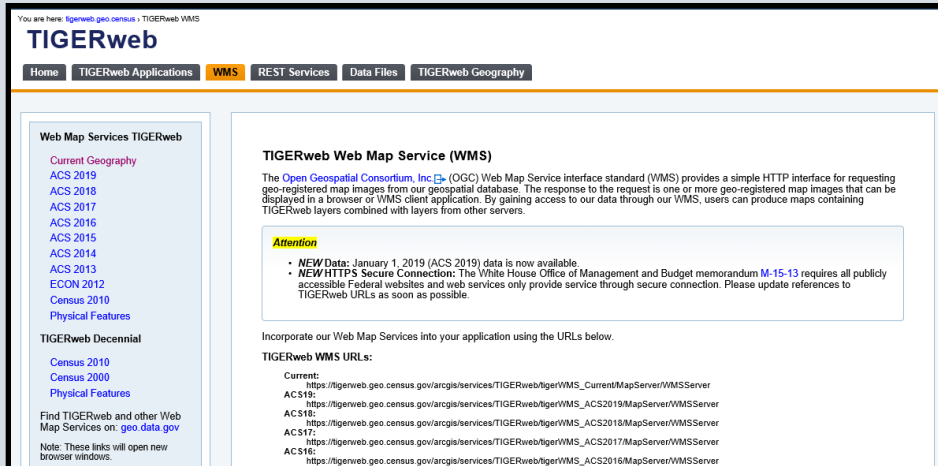
Step	Action and Result
Step 13	<p>To review the CDPs and CCDs, change the Select Map... section to Places and County Subdivisions, select the appropriate layer within the Select Layer(s) choices (e.g., County Subdivisions or Census Designated Places), key all or part of the Name rather than GEOID and click SUBMIT. <i>TIGERweb zooms to the spatial extent of the county subdivision or CDP in Johnson County, Texas.</i></p> <div data-bbox="495 401 1224 1073">  </div> <p>Note: This method of querying individual statistical areas may not be feasible for counties with a large number of statistical areas, but it may be helpful if a participant knows exactly what statistical areas they modified during the delineation phase.</p>
	<p>The use of satellite imagery or terrain in TIGERweb may also benefit a participant conducting a review of the 2020 statistical areas. Refer to Appendix B for instructions on toggling between landmass, satellite imagery, and terrain within the TIGERweb online map viewer.</p>

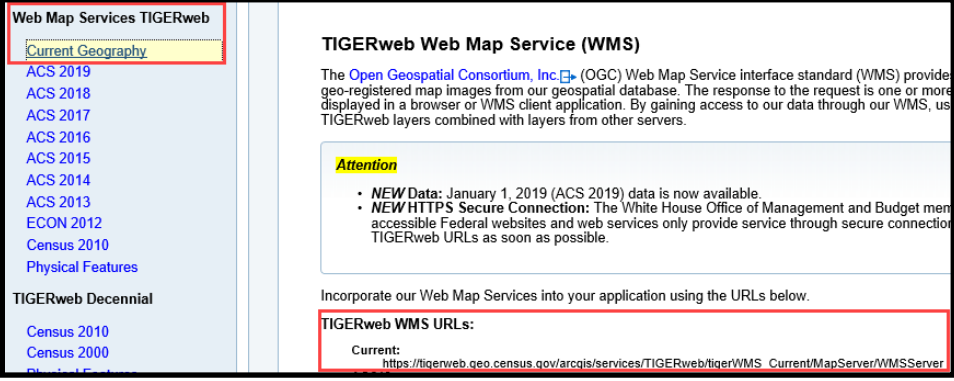
Step	Action and Result
Step 14	<p>Instead of an attribute query, some may want to perform a spatial query. Change the tab within the Query tool from Attribute to Spatial. Select the map from which to query in the Select Map... section and the appropriate layer within the Select Layer(s) section. Choose the spatial method symbol from the six choices: Point, Polyline, Polygon, Rectangle, Free Line, or Free Polygon. Once selected interactively touch/draw on the map display to define the spatial area to query.</p> 
Step 15	<p>If you are responsible for one county in PSAP, review the 2020 statistical areas and attributes in that county to determine if corrections are necessary. Using guidance in Chapter 4 of this respondent guide, send an email to the Census Bureau indicating whether you approve of the 2020 statistical areas or whether corrections are forthcoming. If no corrections are identified, your participation concludes after sending an email of approval to the Census Bureau. If corrections are identified, make note of which statistical areas and/or attributes need modification. A list of statistical areas in need of correction is useful when making the corrections in GUPS. Proceed to Part 2 of this respondent guide for guidance on correcting the 2020 statistical areas.</p> <p>If you are responsible for more than one county in PSAP, perform a quick review of the 2020 statistical areas and attributes in each county to identify whether or not corrections are necessary. As soon as one correction is identified, move to reviewing the next county until all counties under your responsibility for PSAP are reviewed. Using guidance in Chapter 4 of this respondent guide, send one email that gives a status (approved as-is or corrections forthcoming) for all of the counties in your verification universe. If no corrections are identified, your participation concludes after sending an email of approval to the Census Bureau. If corrections are needed, continue to identify corrections in each county, making note of which statistical areas and/or attributes need modification. A list of statistical areas in need of correction is useful when making the corrections in GUPS. Proceed to Part 2 of this respondent guide for guidance on correcting the 2020 statistical areas.</p>

2.2 TIGERweb WMS and TIGERweb REST Services

Rather than using the TIGERweb online map viewer, see [Table 3](#) for steps on reviewing the county-based 2020 statistical areas by using the TIGERweb WMS. See [Table 4](#) for steps on reviewing the county-based 2020 statistical areas by using the TIGERweb REST Services.

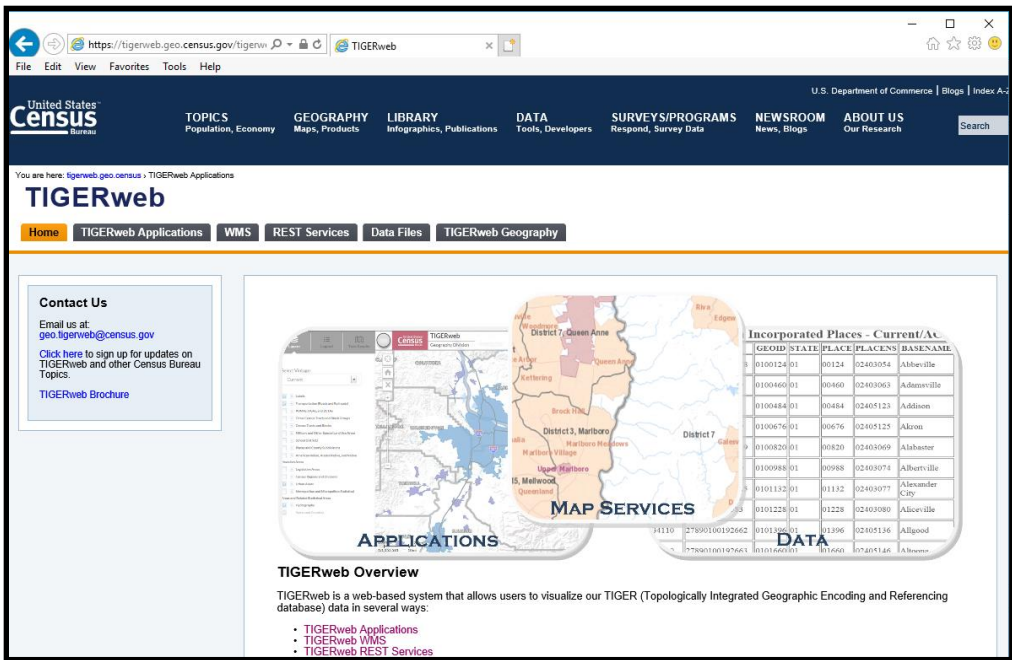
Table 3: Using the TIGERweb WMS

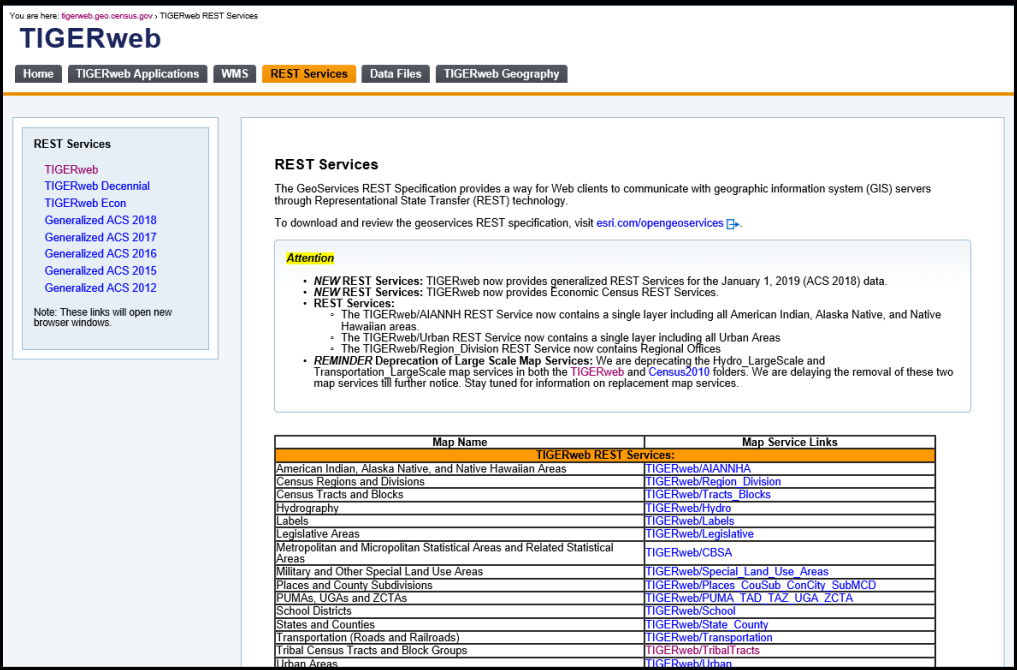
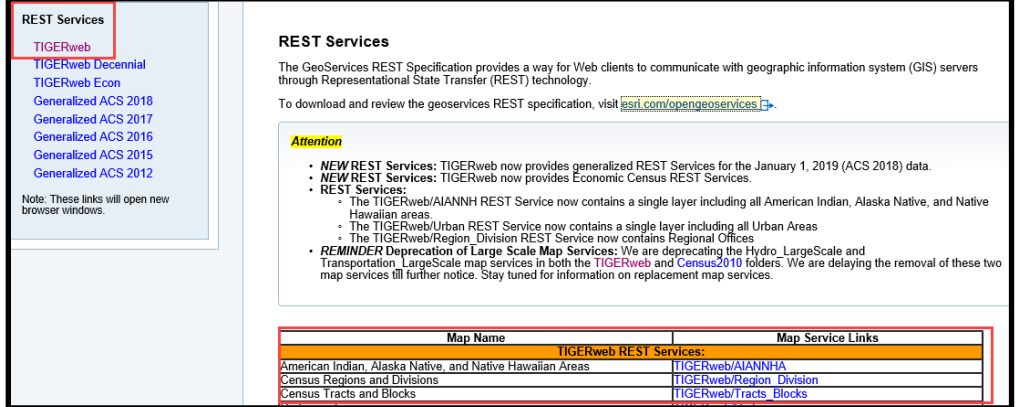
Step	Action and Result
Step 1	<p>Open a new internet browser window and navigate to the TIGERweb website <https://tigerweb.geo.census.gov/tigerwebmain/TIGERweb_main.html>. <i>The TIGERweb main page appears.</i></p> 
Step 2	<p>Click the WMS tab which is two tabs to the right of the Home button. <i>The TIGERweb Web Mapping Service (WMS) page opens.</i> Visit <https://www.opengeospatial.org/standards/wms> to download and review the WMS specification.</p> 

Step	Action and Result
Step 3	<p>Incorporate the Current URL from the TIGERweb WMS URLs section on the WMS main page into your local service/system OR select the Current Geography link along the left side of the WMS main page beneath the Web Map Services TIGERweb section to uncover additional WMS options.</p> 
Step 4	<p>Both methods provide the ability to load URLs for the Current vintage and Census 2010 vintage data into your local service/system for comparison. Follow the information on screen to complete loading the data. Compare the 2020 statistical areas to the 2010 statistical areas by turning the Census 2010 layer on/off in your local service/system.</p> <p>Note: While having the Census 2010 layer for comparison is nice, a participant's focus should remain on whether the existing 2020 statistical areas work for the tabulation and distribution of statistical data and whether any attribute errors exist.</p>
Step 5	<p>Zoom and pan, or perform queries within your service/system, after incorporating the Current vintage census data to review the 2020 statistical area boundaries and attributes applicable to your county(s) to verify they align with expectations. As a reminder, the statistical areas boundaries to review, include census tracts, block groups, census designated places (CDPs), and census county divisions (CCDs).</p> <p>IMPORTANT: While the census tract coding can be reviewed using TIGERweb WMS, the Census Bureau also created Online PDF maps for each county for the sole purpose of reviewing the 2020 census tract coding. The Census Bureau encourages the use of both TIGERweb and the Online PDF maps to conduct a thorough verification review for each county. Refer to Chapter 3 for details on that map product.</p>

Step	Action and Result
Step 6	<p>If you are responsible for one county in PSAP, review the 2020 statistical areas and attributes in that county to determine if corrections are necessary. Using guidance in Chapter 4 of this respondent guide, send an email to the Census Bureau indicating whether you approve of the 2020 statistical areas or whether corrections are forthcoming. If no corrections are identified, your participation concludes after sending an email of approval to the Census Bureau. If corrections are identified, make note of which statistical areas and/or attributes need modification. A list of statistical areas in need of correction is useful when making the corrections in GUPS. Proceed to Part 2 of this respondent guide for guidance on correcting the 2020 statistical areas.</p> <p>If you are responsible for more than one county in PSAP, perform a quick review of the 2020 statistical areas and attributes in each county to identify whether or not corrections are necessary. As soon as one correction is identified, move to reviewing the next county until all counties under your responsibility for PSAP are reviewed. Using guidance in Chapter 4 of this respondent guide, send one email that gives a status (approved as-is or corrections forthcoming) for all of the counties in your verification universe. If no corrections are identified, your participation concludes after sending an email of approval to the Census Bureau. If corrections are needed, continue to identify corrections in each county, making note of which statistical areas and/or attributes need modification. A list of statistical areas in need of correction is useful when making the corrections in GUPS. Proceed to Part 2 of this respondent guide for guidance on correcting the 2020 statistical areas.</p>

Table 4: Using the TIGERweb REST Services

Step	Action and Result
Step 1	<p>Open a new internet browser window and navigate to the TIGERweb website https://tigerweb.geo.census.gov/tigerwebmain/TIGERweb_main.html. The TIGERweb main page appears.</p>  <p>TIGERweb Overview</p> <p>TIGERweb is a web-based system that allows users to visualize our TIGER (Topologically Integrated Geographic Encoding and Referencing database) data in several ways:</p> <ul style="list-style-type: none"> • TIGERweb Applications • TIGERweb WMS • TIGERweb REST Services

Step	Action and Result																																		
Step 2	<p>Click the REST Services tab which is three tabs to the right of the Home button. <i>The REST Services page opens.</i> Visit <https://www.esri.com/opengeoservices> to download and review the GeoServices REST specification.</p>  <p>REST Services</p> <p>The GeoServices REST Specification provides a way for Web clients to communicate with geographic information system (GIS) servers through Representational State Transfer (REST) technology.</p> <p>To download and review the geoservices REST specification, visit esri.com/opengeoservices.</p> <p>Attention</p> <ul style="list-style-type: none"> NEW REST Services: TIGERweb now provides generalized REST Services for the January 1, 2019 (ACS 2018) data. NEW REST Services: TIGERweb now provides Economic Census REST Services. REST Services: <ul style="list-style-type: none"> The TIGERweb/AIANNH REST Service now contains a single layer including all American Indian, Alaska Native, and Native Hawaiian areas. The TIGERweb/Urban REST Service now contains a single layer including all Urban Areas The TIGERweb/Region, Division REST Service now contains Regional Offices REMINDER Deprecation of Large Scale Map Services: We are deprecating the Hydro, LargeScale and Transportation, LargeScale map services in both the TIGERweb and Census2010 folders. We are delaying the removal of these two map services till further notice. Stay tuned for information on replacement map services. <table border="1"> <thead> <tr> <th>Map Name</th><th>Map Service Links</th></tr> </thead> <tbody> <tr> <td>TIGERweb REST Services:</td><td></td></tr> <tr> <td>American Indian, Alaska Native, and Native Hawaiian Areas</td><td>TIGERweb/AIANNH</td></tr> <tr> <td>Census Regions and Divisions</td><td>TIGERweb/Region_Division</td></tr> <tr> <td>Census Tracts and Blocks</td><td>TIGERweb/Tracts_Blocks</td></tr> <tr> <td>Hydrography</td><td>TIGERweb/Hydro</td></tr> <tr> <td>Labels</td><td>TIGERweb/Labels</td></tr> <tr> <td>Legislative Areas</td><td>TIGERweb/Legislative</td></tr> <tr> <td>Metropolitan and Micropolitan Statistical Areas and Related Statistical Areas</td><td>TIGERweb/CBSA</td></tr> <tr> <td>Military and Other Special Land Use Areas</td><td>TIGERweb/Special_Land_Use_Areas</td></tr> <tr> <td>Places and County Subdivisions</td><td>TIGERweb/Places_CouSub_ConCity_SubMCD</td></tr> <tr> <td>PUMAs, UGAs and ZCTAs</td><td>TIGERweb/PUMA_TAD_TAZ_UGA_ZCTA</td></tr> <tr> <td>School Districts</td><td>TIGERweb/School</td></tr> <tr> <td>States and Counties</td><td>TIGERweb/State_County</td></tr> <tr> <td>Transportation (Roads and Railroads)</td><td>TIGERweb/Transportation</td></tr> <tr> <td>Tribal Census Tracts and Block Groups</td><td>TIGERweb/Tribal_Tracts</td></tr> <tr> <td>Urban Areas</td><td>TIGERweb/Urban</td></tr> </tbody> </table>	Map Name	Map Service Links	TIGERweb REST Services:		American Indian, Alaska Native, and Native Hawaiian Areas	TIGERweb/AIANNH	Census Regions and Divisions	TIGERweb/Region_Division	Census Tracts and Blocks	TIGERweb/Tracts_Blocks	Hydrography	TIGERweb/Hydro	Labels	TIGERweb/Labels	Legislative Areas	TIGERweb/Legislative	Metropolitan and Micropolitan Statistical Areas and Related Statistical Areas	TIGERweb/CBSA	Military and Other Special Land Use Areas	TIGERweb/Special_Land_Use_Areas	Places and County Subdivisions	TIGERweb/Places_CouSub_ConCity_SubMCD	PUMAs, UGAs and ZCTAs	TIGERweb/PUMA_TAD_TAZ_UGA_ZCTA	School Districts	TIGERweb/School	States and Counties	TIGERweb/State_County	Transportation (Roads and Railroads)	TIGERweb/Transportation	Tribal Census Tracts and Block Groups	TIGERweb/Tribal_Tracts	Urban Areas	TIGERweb/Urban
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Step 3	<p>Incorporate the appropriate Map Service Links into your local server/system (e.g., Census Tracts and Blocks and Places and County Subdivisions, plus other valuable reference links like Transportation, States and Counties, and Hydrography) from the TIGERweb REST Services section on the REST Services main page OR select the TIGERweb link along the left side of the REST Services main page beneath the REST Services section to uncover additional REST Services options. Do not select any other service than TIGERweb.</p>  <p>REST Services</p> <p>The GeoServices REST Specification provides a way for Web clients to communicate with geographic information system (GIS) servers through Representational State Transfer (REST) technology.</p> <p>To download and review the geoservices REST specification, visit esri.com/opengeoservices.</p> <p>Attention</p> <ul style="list-style-type: none"> NEW REST Services: TIGERweb now provides generalized REST Services for the January 1, 2019 (ACS 2018) data. NEW REST Services: TIGERweb now provides Economic Census REST Services. REST Services: <ul style="list-style-type: none"> The TIGERweb/AIANNH REST Service now contains a single layer including all American Indian, Alaska Native, and Native Hawaiian areas. The TIGERweb/Urban REST Service now contains a single layer including all Urban Areas The TIGERweb/Region, Division REST Service now contains Regional Offices REMINDER Deprecation of Large Scale Map Services: We are deprecating the Hydro, LargeScale and Transportation, LargeScale map services in both the TIGERweb and Census2010 folders. We are delaying the removal of these two map services till further notice. Stay tuned for information on replacement map services. <table border="1"> <thead> <tr> <th>Map Name</th><th>Map Service Links</th></tr> </thead> <tbody> <tr> <td>TIGERweb REST Services:</td><td></td></tr> <tr> <td>American Indian, Alaska Native, and Native Hawaiian Areas</td><td>TIGERweb/AIANNH</td></tr> <tr> <td>Census Regions and Divisions</td><td>TIGERweb/Region_Division</td></tr> <tr> <td>Census Tracts and Blocks</td><td>TIGERweb/Tracts_Blocks</td></tr> </tbody> </table>	Map Name	Map Service Links	TIGERweb REST Services:		American Indian, Alaska Native, and Native Hawaiian Areas	TIGERweb/AIANNH	Census Regions and Divisions	TIGERweb/Region_Division	Census Tracts and Blocks	TIGERweb/Tracts_Blocks																								
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Step 4	<p>Both methods provide the ability to load URLs for the Current vintage and Census 2010 vintage data into your local service/system for comparison. Follow the information on screen to complete loading the data. Compare the 2020 statistical areas to the 2010 statistical areas by turning the Census 2010 layer on/off in your local service/system.</p> <p>Note: While having the Census 2010 layer for comparison is nice, a participant's focus should remain on whether the existing 2020 statistical areas work for the tabulation and distribution of statistical data and whether any attribute errors exist.</p>																																		

Step	Action and Result
Step 5	<p>Zoom and pan, or perform queries within your service/system, after incorporating the Current vintage census data to review the 2020 statistical area boundaries and attributes applicable to your county(s) to verify they align with expectations. As a reminder, the statistical areas boundaries to review, include census tracts, block groups, census designated places (CDPs), and census county divisions (CCDs).</p> <p>IMPORTANT: While the census tract coding can be reviewed using TIGERweb REST Services, the Census Bureau also created Online PDF maps for each county for the sole purpose of reviewing the 2020 census tract coding. The Census Bureau encourages the use of both TIGERweb and the Online PDF maps to conduct a thorough verification review for each county. Refer to Chapter 3 for details on that map product.</p>
Step 6	<p>If you are responsible for one county in PSAP, review the 2020 statistical areas and attributes in that county to determine if corrections are necessary. Using guidance in Chapter 4 of this respondent guide, send an email to the Census Bureau indicating whether you approve of the 2020 statistical areas or whether corrections are forthcoming. If no corrections are identified, your participation concludes after sending an email of approval to the Census Bureau. If corrections are identified, make note of which statistical areas and/or attributes need modification. A list of statistical areas in need of correction is useful when making the corrections in GUPS. Proceed to Part 2 of this respondent guide for guidance on correcting the 2020 statistical areas.</p> <p>If you are responsible for more than one county in PSAP, perform a quick review of the 2020 statistical areas and attributes in each county to identify whether or not corrections are necessary. As soon as one correction is identified, move to reviewing the next county until all counties under your responsibility for PSAP are reviewed. Using guidance in Chapter 4 of this respondent guide, send one email that gives a status (approved as-is or corrections forthcoming) for all of the counties in your verification universe. If no corrections are identified, your participation concludes after sending an email of approval to the Census Bureau. If corrections are needed, continue to identify corrections in each county, making note of which statistical areas and/or attributes need modification. A list of statistical areas in need of correction is useful when making the corrections in GUPS. Proceed to Part 2 of this respondent guide for guidance on correcting the 2020 statistical areas.</p>

CHAPTER 3 USING ONLINE PDF MAPS TO REVIEW 2020 CENSUS TRACT CODING

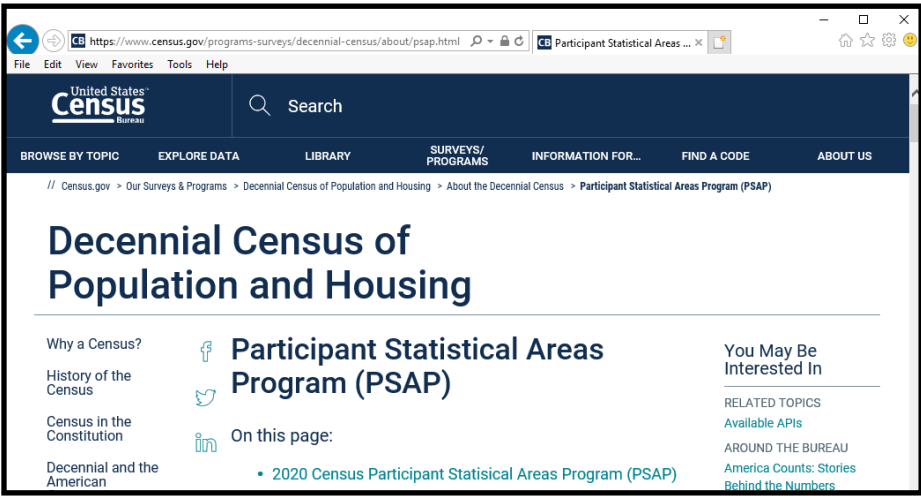
The Census Bureau created county-based, Online PDF maps that show the census tract boundaries, census tract coding (labels), and other common map features to assist with the review of the 2020 census tract coding. These maps are not available in printed form and are not for use for any reason other than reviewing the 2020 census tract codes.

While the 2020 census tract codes can be viewed in TIGERweb, the Census Bureau believes this product allows participants to more easily scan and review the coding scheme to ensure any long-standing or existing coding patterns are maintained throughout the 2020 Census PSAP process. The verification phase is the last opportunity to correct errors or inconsistencies with census tract coding before the final 2020 tabulation geography is created. This review is very important for participants with long established census tract plans and coding schemes.

The file naming convention for these map files is as follows: **PSAPV20CT<ssccc>.pdf**, where <ssccc> corresponds to the five-digit, state county FIPS code described in [Section A](#) and listed on the verification announcement for your responsible county(s). For example, the file name for Ramsey County, Minnesota would be **PSAPV20CT27123.pdf** and the file name for Arroyo Municipio, Puerto Rico would be **PSAPV20CT72015.pdf**. The maps include **Census Tract Code Review Map** in their title to reinforce their purpose during PSAP verification.

Refer to [Table 5](#) for the steps to locate and use the Online PDF maps to conduct a review of the 2020 census tract coding within a county.

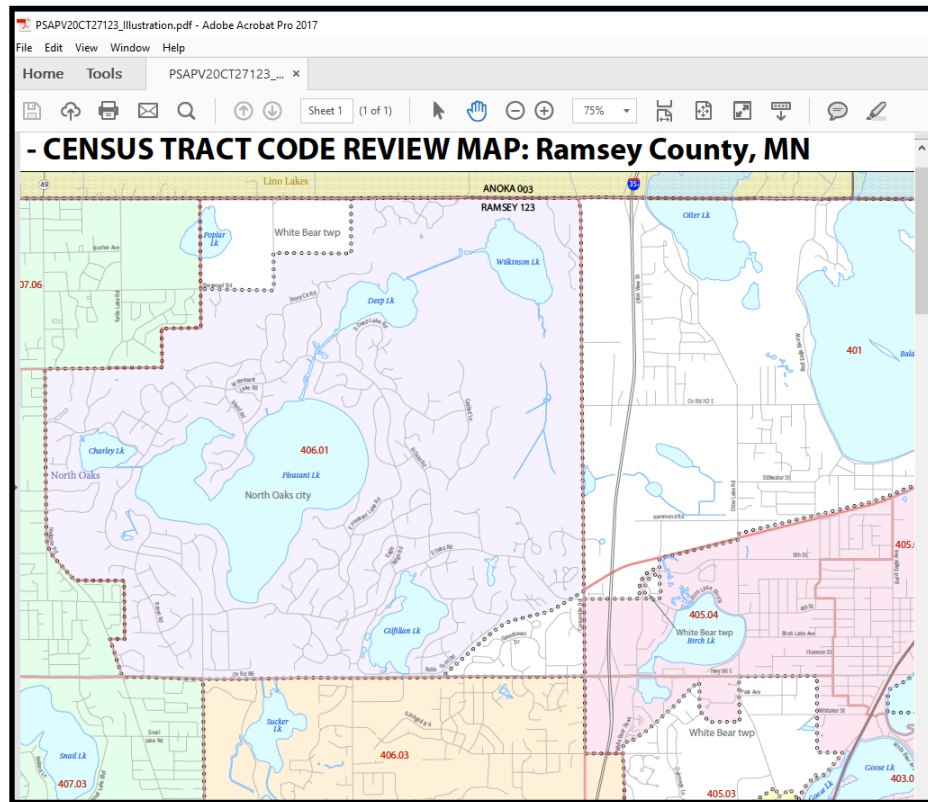
Table 5: Locating and Using the Online PDF Maps to Review 2020 Census Tract Coding

Step	Action and Result
Step 1	<p>Open a new internet browser window and navigate to the PSAP website https://www.census.gov/programs-surveys/decennial-census/about/psap.html. The PSAP main page appears.</p> 
Step 2	<p>Scroll down the page to locate the Online PDF Maps – Census Tract sub-section within the 2020 Census PSAP Verification Materials section.</p>
Step 3	<p>From the drop-down menu within the Choose a State to View section, select the name of the state in which the county to review is located. The system routes participants to a file transfer protocol (FTP) directory for that state. <i>The individual PDF files for each county within the state appear.</i></p>
Step 4	<p>Using the naming convention described in the introductory paragraph to this table, click the PDF file name to open the map directly on-screen or to save the file locally for later use. Follow the on-screen instructions for downloading and saving the file.</p> <p>Note: If using the file locally, ensure use of Adobe Reader® or Adobe Acrobat® to preserve the map symbology and readability.</p>

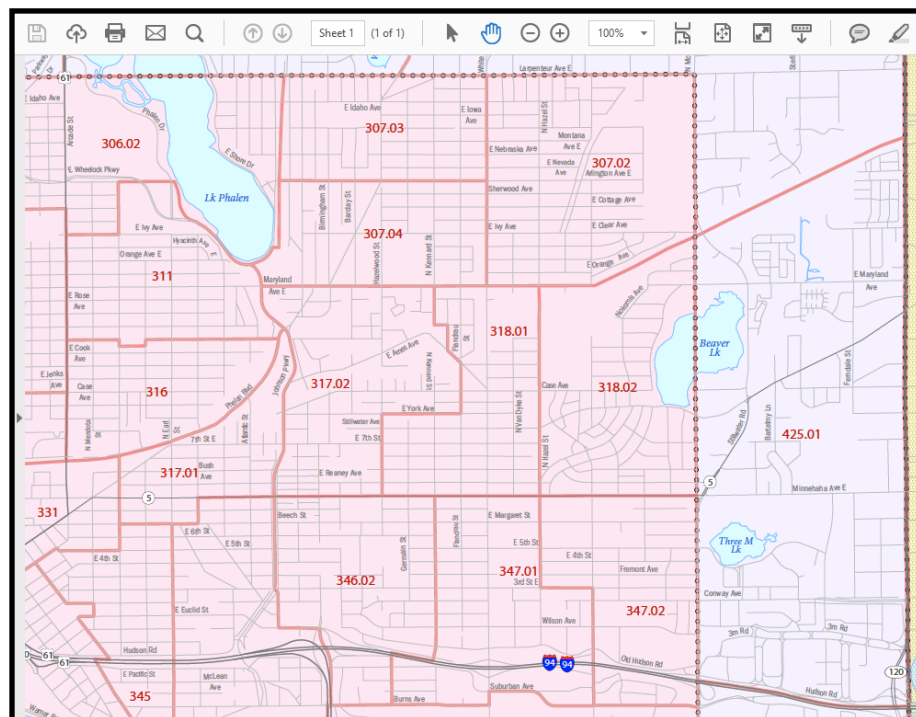
With the county-based PDF file open, zoom and pan around the county checking the 2020 census tract coding to confirm it aligns with expectations. *The first image below shows the map at a 75% zoom level in Adobe Acrobat and includes a portion of the map title.*

Note: These images are for illustrative purposes only and do not reflect the 2020 census tracts for Ramsey County, MN.

Step 5



The second image shows the map at 100% zoom level with several census tracts displayed.



Step	Action and <i>Result</i>
Step 6	<p>Make note of the 2020 census tract coding errors as they are discovered and continue to review the county until all of the census tract codes have been reviewed. Conducting a complete review of the county allows participants to prepare a complete list of census tracts that need correction to their coding.</p> <p>If no corrections to the statistical area boundaries were discovered during the TIGERweb review, but census tract coding errors were discovered during a review of the Online PDF maps, please notify the Census Bureau of forthcoming corrections by following the instructions in Chapter 4.</p> <p>Note: If you have already notified the Census Bureau of forthcoming corrections for your county(s) once boundaries issues were discovered using TIGERweb, there is no need to provide additional notification if census tract coding errors are discovered.</p>
Step 7	Refer to Appendix D for instruction on using GUPS to correct the errant census tract coding.

CHAPTER 4 EMAIL NOTIFICATION OF CORRECTIONS TO OR APPROVAL OF THE 2020 STATISTICAL AREAS

Within 30 calendar days of receipt of the verification announcement, the Census Bureau requests either the PSAP primary official contact or the PSAP primary technical contact email <geo.psap@census.gov> to indicate whether or not corrections to the 2020 statistical areas for their county(s) are forthcoming. See [Figure 1](#) for a sample email that contains information that ensures proper accounting for your county(s) and their verification status.

Note: The information included in the sample email is fictitious.

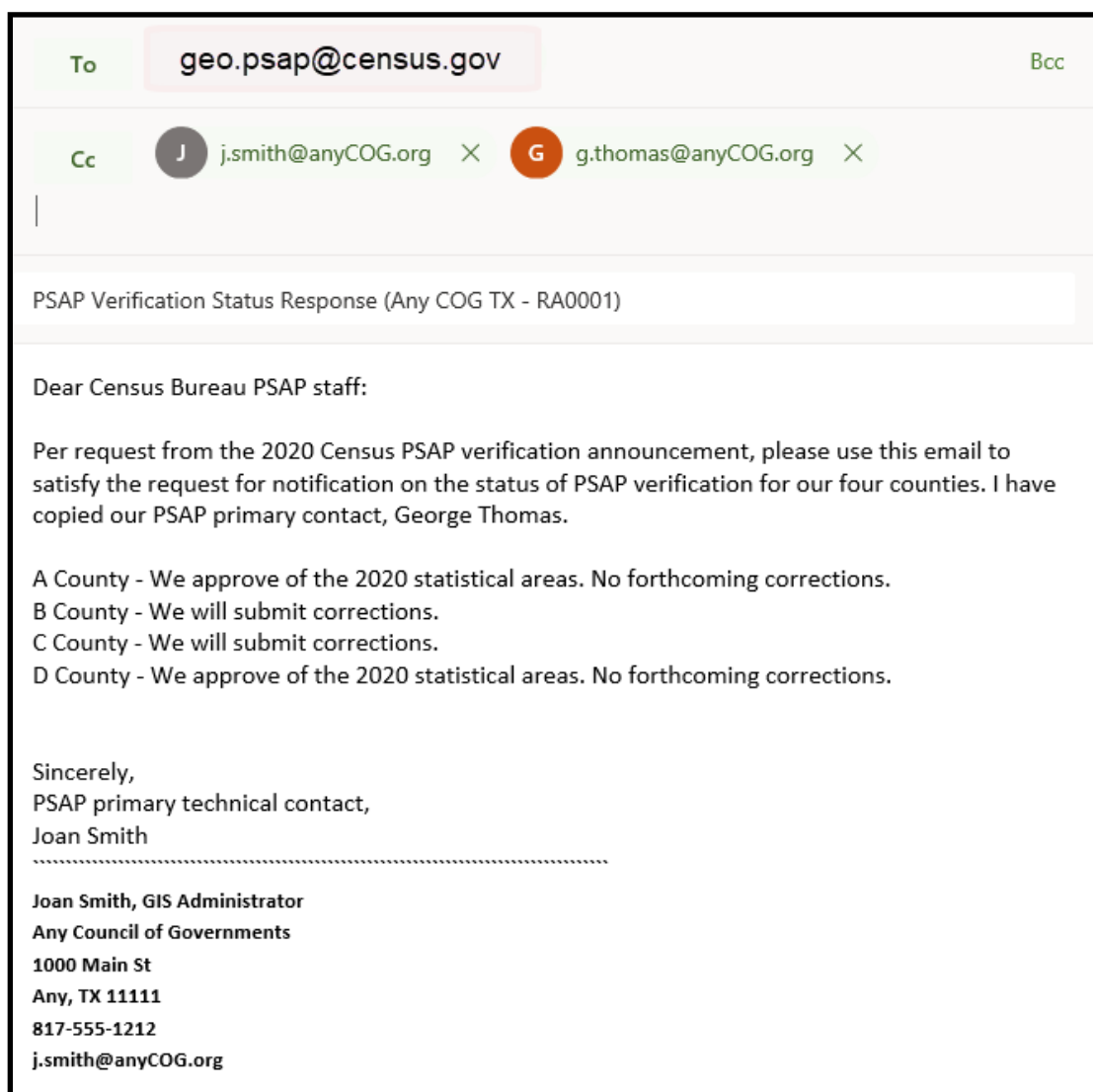


Figure 1: Sample Verification Email Notification from Participant

A complete review of a county is not required to notify the Census Bureau of forthcoming corrections. Identification of any correction to a 2020 statistical area boundary or to a 2020 census tract code allows for an email to be sent notifying the Census Bureau of forthcoming corrections to the specific county. Conversely, if the review concludes that no corrections are

required, an email notification of approval allows the Census Bureau to proceed with the 2020 statistical areas as they exist in the verification phase materials. If corrections are identified after having notified the Census Bureau that no corrections were necessary, please send an email alerting the Census Bureau to a change in the verification status for the specific county(s).

For participants with more than one county to review, the Census Bureau suggests a quick review of each county so that notification can be sent for all counties at once within the requested 30 calendar days of receipt of the verification announcement. If the Census Bureau does not receive email notification of approval or has not received a verification phase submission containing corrections for your county(s) halfway through the review period (i.e., approximately 45 calendar days from receipt of the verification announcement), a follow-up notification regarding the status of your county(s) will be distributed by email or letter. This follow-up notification includes a reminder to email the Census Bureau of your approval or of your intention to make a submission and reinforces the importance of an on-time verification submission. Participants are encouraged to use the time remaining in the review period to complete their verification phase corrections. Late submissions will not be accepted.

Prior to making **major or significant corrections** to the statistical area boundaries or attributes, contact the Census Bureau by email at <geo.psap@census.gov> or by phone at 1-844-788-4921 to receive guidance on how, or if, to proceed. There may be situations where boundary changes suggested during the delineation phase were not applied and communication with the participant about those changes was not initiated. Contacting the Census Bureau to learn more about why the verification materials do not reflect delineation phase updates will inform a participant whether resubmitting the same changes are acceptable for the verification phase.

However, if **minor or a few corrections** to the statistical area boundaries or attributes are necessary, proceed with the instructions in **Part 2** of this material and the *2020 Census PSAP Standard Respondent Guide (G-730)* to complete the statistical area corrections.

IMPORTANT: Participants that agree with the 2020 statistical areas for their county(s) only need to submit an email stating their approval. No submission or additional correspondence is required. Proceed to **Chapter 7** to close-out 2020 Census PSAP.

PART 2 CORRECTING 2020 STATISTICAL AREAS

Participants that determine corrections to the 2020 statistical areas are necessary must use GUPS to perform the corrections. Because the process for using GUPS to update statistical areas during the verification phase is identical to the process used during the delineation phase, the detailed content for Part 2 and Part 3 of the delineation phase respondent guide is not repeated within this verification phase material. Participants must refer to both the *2020 Census PSAP Standard Respondent Guide (G-730)* from the delineation phase and to the instructions provided in this part of the verification phase respondent guide to make corrections. They should also review the training materials from both delineation and verification phases.

IMPORTANT: If no corrections were identified during the review of the 2020 statistical areas described in Part 1, skip to [Chapter 7](#). Participation in 2020 Census PSAP concludes after sending an email to the Census Bureau indicating approval of the 2020 statistical areas as they exist in TIGERweb.

As a reminder for participants with corrections, the statistical areas modified during the verification phase must still meet the criteria and guidelines set forth during the delineation phase. Refer to the individual statistical geography chapters (e.g., Chapters 2 – 4), shown in [Figure 2](#), and *Appendix B* within the *2020 Census PSAP Standard Respondent Guide (G-730)* or to the *Federal Register* notice section on the PSAP website to ensure corrections made to the 2020 statistical areas follow the established criteria, guidelines and requirements.

Part 1. Overview of the 2020 Census PSAP Materials and the Standard Statistical Geographies	1
Chapter 1 Delineation Phase Materials for 2020 Census PSAP	1
1.1 Informational and Instructional Materials	1
1.2 DVD Materials.....	2
1.3 Delineation Phase Postcard.....	2
Chapter 2 Census Tracts	1
2.1 Census Tract Threshold Requirements.....	2
2.2 Census Tract Codes and Numeric Identification.....	3
2.3 Census Tract Boundary Requirements	3
Chapter 3 Block Groups.....	1
3.1 Block Group Threshold Requirements.....	2
3.2 Block Group Codes and Numeric Identification	2
3.3 Block Group Boundary Requirements	3
Chapter 4 Census Designated Places (CDPs)	1
Chapter 5 Census County Divisions (CCDs)	1
5.1 Census County Division Name Identification.....	2

Figure 2: Individual Statistical Geography Chapters in the G-730 Table of Contents

CHAPTER 5 USING GUPS TO CORRECT 2020 STATISTICAL AREAS

This chapter provides instructions for updating GUPS in support of the verification phase and provides a refresher on getting started with GUPS by opening a new project for PSAP Verification. It introduces modifications to GUPS created to support the verification phase and reinforces the importance of using the proper, existing GUPS tools for making corrections to the 2020 statistical areas. It concludes with a section that includes the instructions for creating the verification phase .zip file for submission.

IMPORTANT: Numerous details exist in the delineation phase materials, both the *2020 Census PSAP Standard Respondent Guide (G-730)* and the training webinar recording, that do not repeat in the verification phase material. For this reason, the delineation phase materials are the primary source of information to implement verification phase corrections.

5.1 Updating GUPS

Participants with corrections to the 2020 statistical areas must update their version of GUPS from the delineation phase. In addition to new tools and functionality within GUPS, the newer version is programmed to run on the QGIS 3 Madeira platform rather than on QGIS 2 Las Palmas platform. The Census Bureau bundled the update for GUPS and QGIS into a single .zip file available for download from the PSAP website. No software installation DVDs are distributed for the verification phase.

IMPORTANT: Participants must download and install the newer version of software to make corrections to the 2020 statistical areas during the verification phase.

The local computer to install the newer version of GUPS and to use for the submission of corrections (by using the Secure Web Incoming Module (SWIM)) needs the minimum requirements listed below in [Table 6](#). The Census Bureau recommends installing the newer version of GUPS on the same local computer(s) used for the delineation phase.

Table 6: Requirements for Hardware, Operating Systems, and Internet Browsers

Hardware	Operating System	Supported Browsers
<p>Disk Space Needed to Run GUPS:</p> <p>4 GB</p> <p>Disk Space Needed to Store Shapefiles:</p> <p>Shapefile sizes vary. To view the size of your shapefiles, select a file/ folder, right-click, and choose Properties in the drop-down menu. The Files Properties box opens and displays the file/folder sizes. Select multiple files/folders in the list to view their properties via the same method.</p> <p>RAM:</p> <ul style="list-style-type: none"> 4 GB minimum; 8 GB or more recommended for optimal performance. 	<p>Windows®:</p> <p>To run GUPS, Windows users need one of the following Windows operating systems:</p> <ul style="list-style-type: none"> Windows 7® Windows 8® Windows 10® <p>Apple®:</p> <p>Mac OS X® users must secure a license for Microsoft Windows and use a Windows bridge. The suggested bridge software is Boot Camp®, which comes pre-installed on all Mac computers. Find instructions for using Boot Camp at: https://www.apple.com/support/bootcamp/getstarted/. Some Apple iOS® users may want to use Red Hat software. Locate instructions at: https://www.redhat.com/download.</p> <p>IMPORTANT: Since Boot Camp requires a restart of the computer to set up the bridge, be sure to print the instructions provided at the URL above before beginning installation.</p>	<p>Minimum Browser Versions to Use the Secure Web Incoming Module (SWIM):</p> <p>SWIM supports the two most recent versions of each of the major internet browsers:</p> <ul style="list-style-type: none"> Internet Explorer® Google Chrome® Mozilla Firefox® Apple Safari®

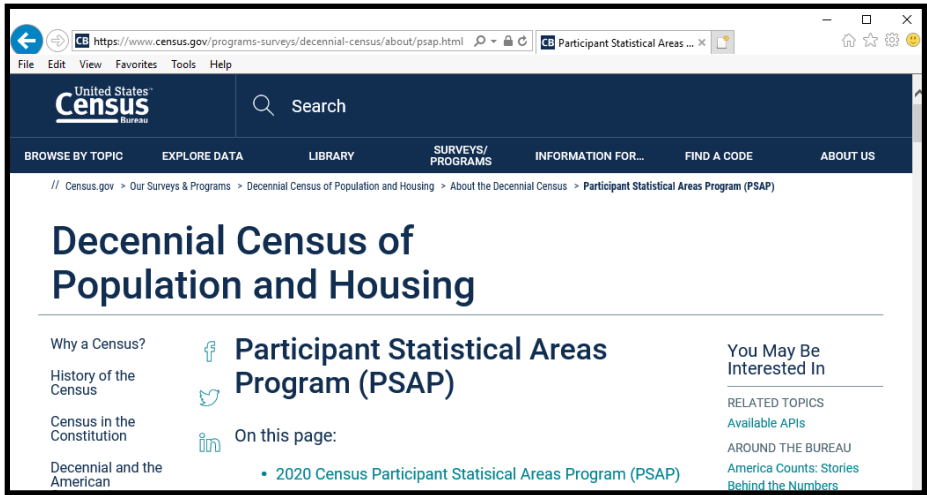
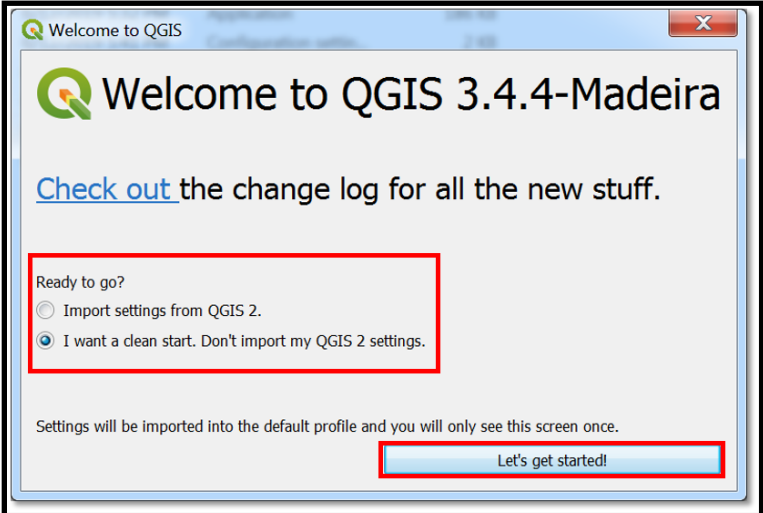
Depending on the version of Windows or Operating System on the local computer used for PSAP, the GUPS dialog boxes shown throughout this document may have a different appearance than the screenshots contained in the respondent guide, although the content is essentially the same.

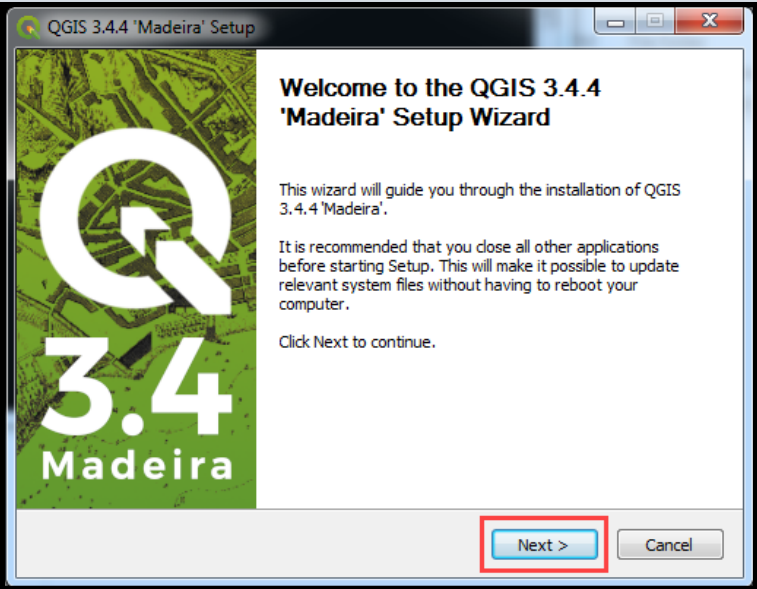
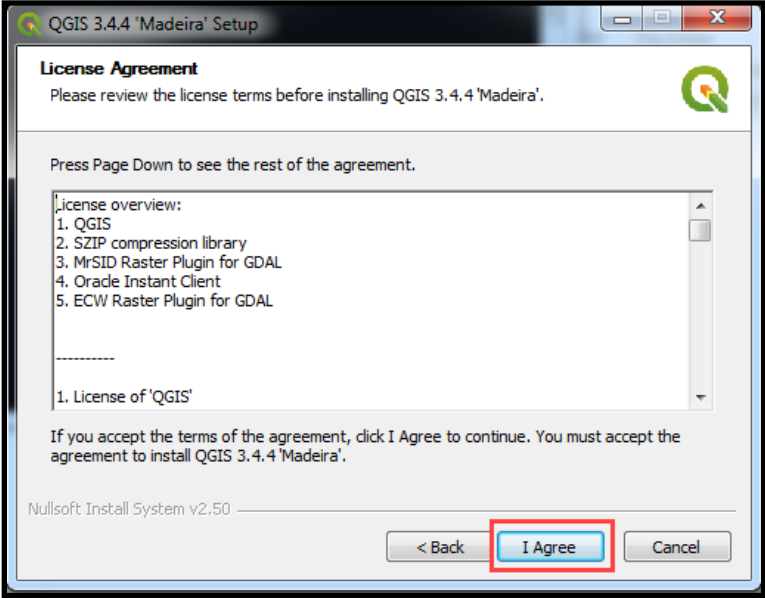
5.1.1 Downloading and Installing GUPS and QGIS

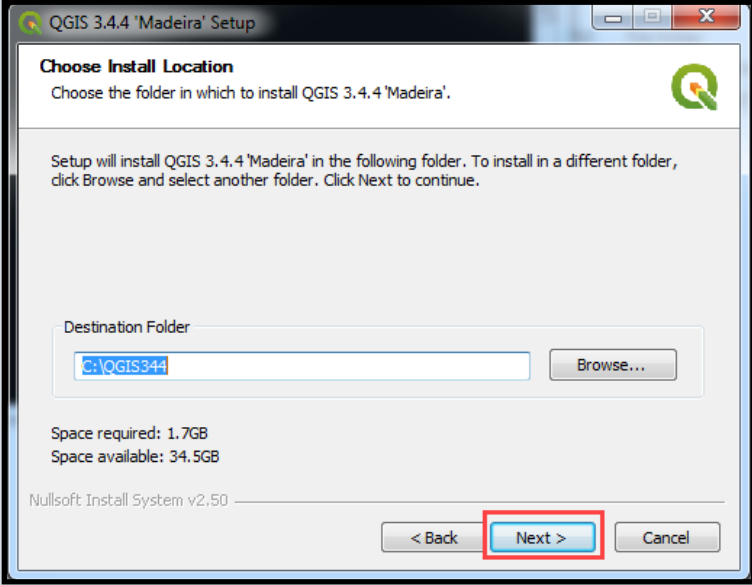
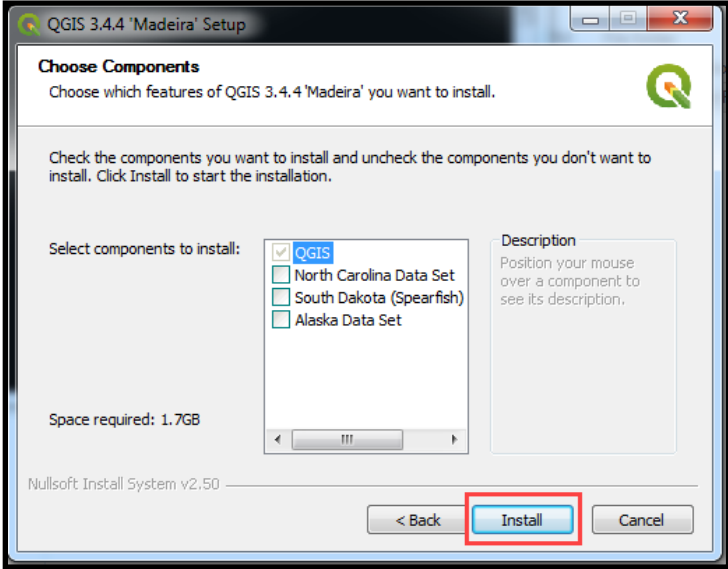

Table 7 provides the steps to download and install the newer version of GUPS and QGIS necessary to support verification phase corrections.

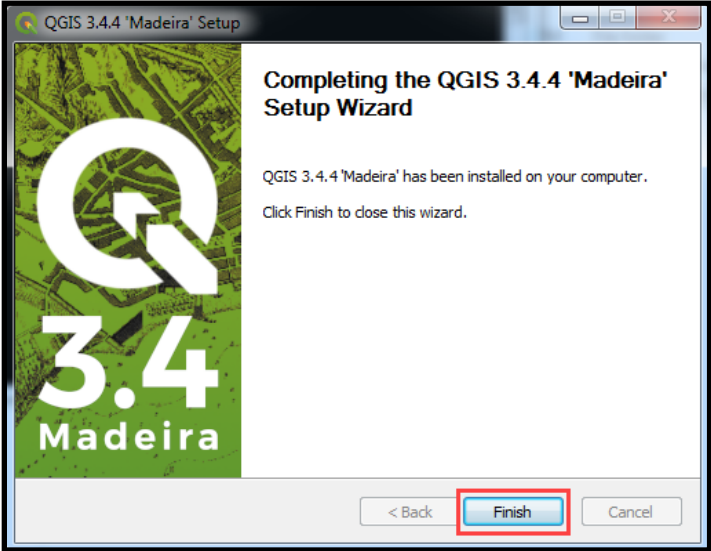
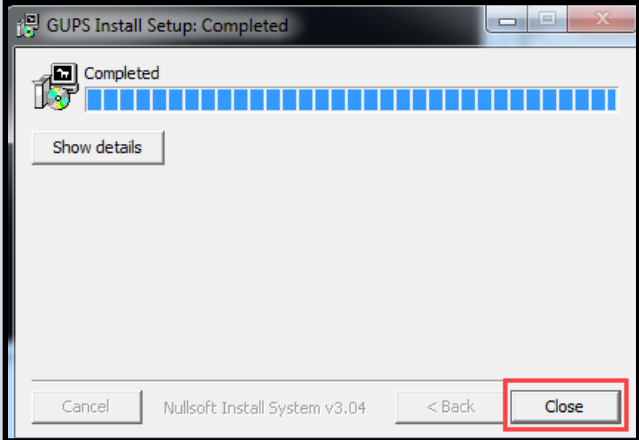
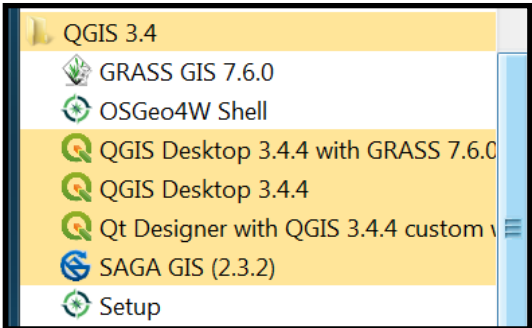
Note: Administrator privileges are likely necessary to install GUPS. Check with the local system administrator for instructions on installing an external software to the local computer prior to contacting the Census Bureau for assistance.

Table 7: Downloading and Installing the Newer Version of GUPS and QGIS

Step	Action and Result
Step 1	<p>Open a new internet browser window and navigate to the PSAP website <https://www.census.gov/programs-surveys/decennial-census/about/psap.html>. The PSAP main page appears.</p>  <p>The screenshot shows a web browser window with the URL https://www.census.gov/programs-surveys/decennial-census/about/psap.html. The page title is "Participant Statistical Areas Program (PSAP)". The main heading is "Decennial Census of Population and Housing". Below this, there are sections for "Why a Census?", "History of the Census", "Census in the Constitution", and "Decennial and the American". The "Participant Statistical Areas Program (PSAP)" section is highlighted, with a link to "On this page: 2020 Census Participant Statistical Areas Program (PSAP)". There are also links for "You May Be Interested In" and "RELATED TOPICS".</p>
Step 2	<p>Scroll down the page to the 2020 Census PSAP Verification Materials section to locate the Download the GUPS link. Click the link to download the file. Use Save As rather than Save to choose a specific folder on the local computer to download the file.</p>
Step 3	<p>Navigate to the folder on the local computer where the downloaded .zip file resides. Double-click the .zip file to unzip and extract its contents.</p>
Step 4	<p>From the folder where the .zip file was extracted, double-click the SETUP-<version>.bat file to start installation. Regardless of the version number of the file, there will be only one SETUP .bat file to choose.</p>
Step 5	<p>The Welcome to QGIS screen appears that allows a participant to import their previous settings from QGIS 2 or starting clean. Choose Start Clean and click Let's get started to proceed. Note, if a new version of GUPS that uses QGIS 3 is already installed from your work with other census programs, this window may not appear.</p>  <p>The screenshot shows the "Welcome to QGIS" dialog box for QGIS 3.4.4-Madeira. It includes a link to "Check out the change log for all the new stuff." Below this, there are two radio buttons: "Ready to go?" with options "Import settings from QGIS 2." and "I want a clean start. Don't import my QGIS 2 settings." The "I want a clean start" option is selected. At the bottom, there is a "Let's get started!" button. A red box highlights the "Ready to go?" section, and another red box highlights the "Let's get started!" button.</p>

Step	Action and Result
Step 6	<p>When the installer opens, <i>the Welcome to the QGIS 3.4.4 'Madeira' Setup Wizard screen appears.</i></p>  <p>Note: The version needed for the verification phase is QGIS 3.4.4 Madeira. If the exact same version of QGIS exists on the computer, an instruction to uninstall and reinstall may appear. Participants may retain other versions of QGIS that may be in use for other programs (e.g., QGIS 2 Las Palmas version used for the delineation phase), but we suggest to reinstall if the same version exists on the computer to ensure installation of the latest update.</p> <p>Before proceeding with installation, close all other programs or applications. Once other programs and applications are closed, click the Next button.</p>
Step 7	<p><i>The License Agreement screen appears. Read the License Agreement and click the I Agree button to continue.</i></p> 

Step	Action and Result
Step 8	<p>The Choose Install Location screen opens. For performance and stability, the Census Bureau recommends installation to the default directory even though the Browse button allows for changing of the installation directory. Click Next to continue with installation.</p> 
Step 9	<p>The Choose Components screen opens.</p>  <p>'<input checked="" type="checkbox"/>QGIS' in the Select components to install field is checked and grayed out since it is the default. Simply click Install to continue.</p>
	<p>To review a previous screen or reread the license agreement, click the Back button (each screen contains this button). <i>This returns the screen to the previous page.</i></p>

Step	Action and Result
Step 10	<p>The software takes between five and 10 minutes to install. <i>When it finishes installation, the Completing the QGIS 3.4.4 'Madeira' Setup Wizard screen opens.</i> Click the Finish button to finish the QGIS update and launch the GUPS update.</p> 
Step 11	<p>The GUPS Install Setup: Completed screen opens showing the status of the installation of GUPS. To complete the installation, click the Close button.</p> 
Step 12	<p>Use QGIS Desktop 3.4.4 for the verification phase work. Disregard the other software installed as part of the process. <i>Once the application installs, QGIS 3.4 is added to the Start Menu, All Programs list and a QGIS 3.4 icon is created on the desktop.</i></p> 

After successfully updating GUPS and QGIS for use in the verification phase, participants are ready to begin their work to correct the 2020 statistical areas. Proceed to the next section for more instructions on opening GUPS and starting a new project.

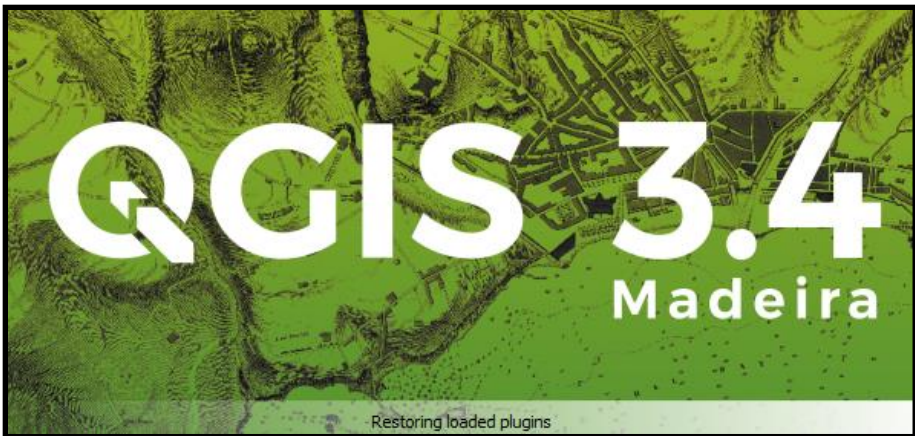
5.2 Opening GUPS and Starting a New Project

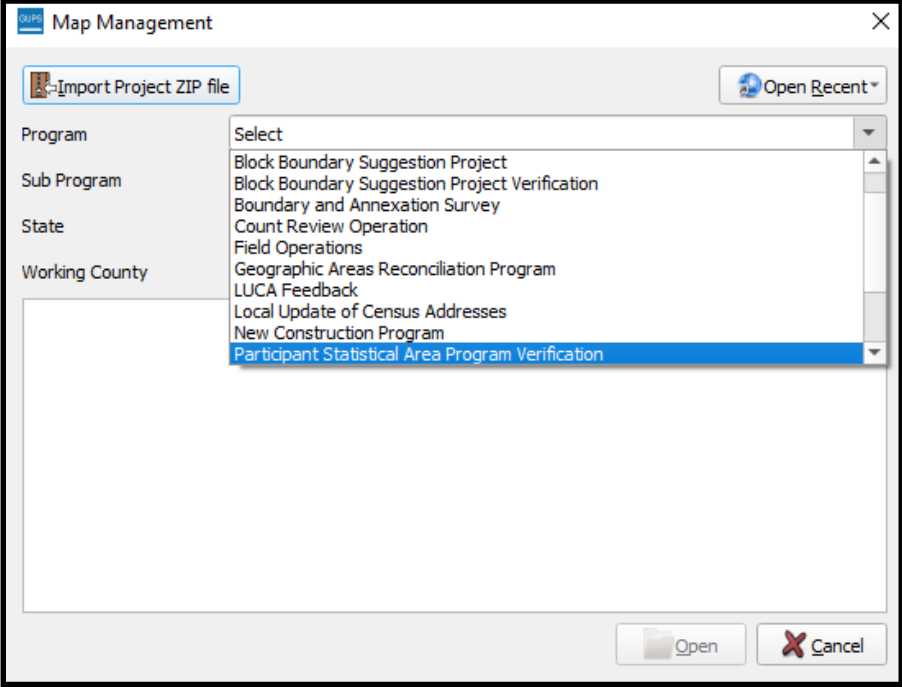
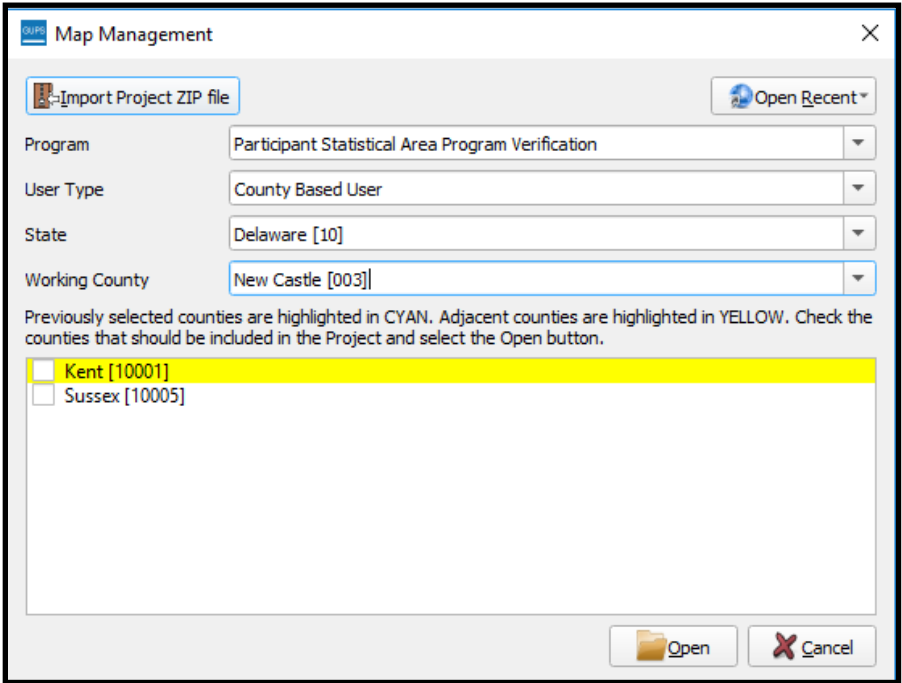
Because no DVDs are distributed for the verification phase, participants with corrections must use the **Census Web** option in GUPS to download the shapefiles directly into GUPS. To open the GUPS using Census Web follow the steps in **Table 8** below.


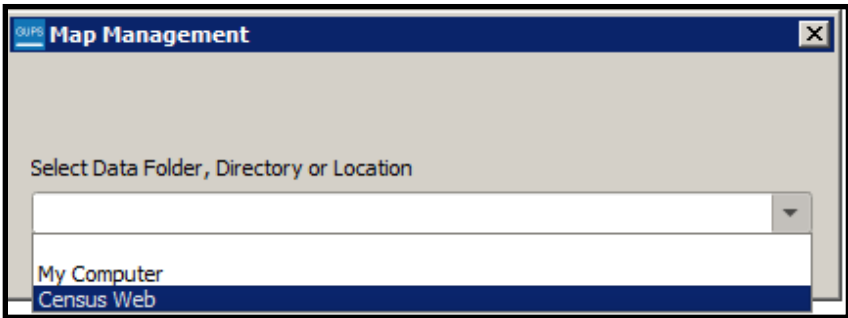
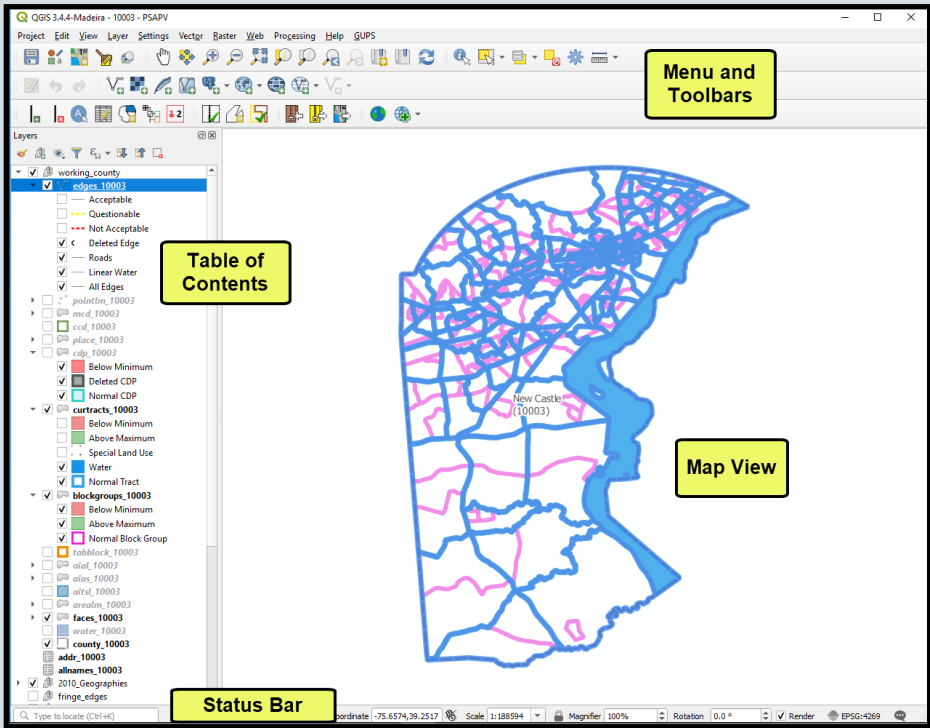
IMPORTANT: GUPS needs at least 4 gigabytes of free space on the hard drive to begin.

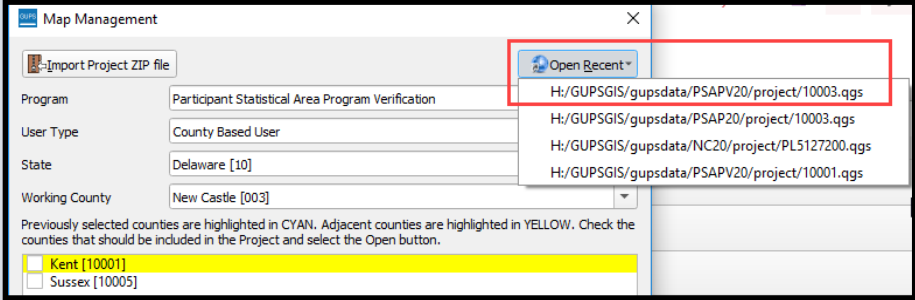

To practice using GUPS without committing the corrections, simply exit GUPS without saving. Before GUPS closes, it will give the option to save or discard the changes. Participants can reopen saved projects and continue working later.

Table 8: Getting Started with GUPS using Census Web

Step	Action and Result
Step 1	<p>Select QGIS Desktop 3.4.4 from the All Programs list in the Start Menu, shown in Step 12 of the previous table or from the QGIS 3.4 desktop icon. <i>The QGIS splash screen appears.</i></p>  <p>Note: Depending on the age of the computer and amount of RAM, the application may require a few moments to load and open.</p>

Step	Action and Result
Step 2	<p>The Map Management window appears.</p>  <p>Use the drop-down menu next to the Program field to select Participant Statistical Areas Program Verification.</p>
Step 3	<p>Select County Based User for the User Type, the state of the county for the State, and the county in which to make the corrections for the Working County. Notice the use of the FIPS codes in the State and Working County field.</p>  <p>Previously selected counties are highlighted in CYAN. Adjacent counties are highlighted in YELLOW. Check the counties that should be included in the Project and select the Open button.</p>

Step	Action and Result
	<p>Do not select adjacent counties, shown in the window beneath the Working County, unless they assist with providing a reference for corrections. As with the delineation phase, participants complete their verification corrections county-by-county.</p>
Step 4	<p>Choose Census Web from the Select Data Folder, Directory or Location window to download the data directly into GUPS.</p> 
Step 5	<p>When the data loads, the Table of Contents populates and symbolizes according to preset styles. The Map View fills with the working county. The Menu and Toolbars appear along the top and the Status Bar appears at the bottom of the screen. <i>The QGIS 3.4.4 Madeira and PSAPV are displayed at the very top of the GUPS screen, confirming use of the newer QGIS and selection of the verification phase (e.g., PSAPV).</i></p> 
Step 6	<p>To save a project, use the Save button on the Standard toolbar or locate the Save option beneath the Project tab along the Menu bar.</p>

Step	Action and Result
Step 7	<p>To open a previously saved project, in the Map Management window, click the drop-down arrow next to the Open Recent button. <i>The drop-down menu opens with a list of current projects.</i></p> 
	<p>Multiple project files, for multiple programs, may appear, as shown above. In the example above, three separate projects exist on the same computer (PSAPV20, PSAP20, and NC20). To identify which of the entries in the list represents a particular project, look at folder name that follows “/gupsdata” to identify the project (e.g., PSAPV20, PSAP20, or NC20). Notice the PSAP GUPS projects use the entity identification coding mentioned in Section A.</p>
Step 8	<p>To add the delineation phase submission layers into the verification phase project for reference in making corrections, refer to Appendix C.</p>

With the project loaded, participants are ready to begin making corrections. Continue to refer to the delineation phase respondent guide for detailed instructions. To begin making updates, use the **Modify Area Feature** tool within GUPS to select the geography to correct. Use the information gained from the TIGERweb review of statistical areas, or from the review of the Online PDF maps, to select the corresponding geography from the list that appears in the **Modify Area Feature** window. Because some corrections cascade to underlying geographies, perform the updates in the same order as conducted during the delineation phase: census tract, block group, CDP, and then CCD.

Refer to *Chapter 9* of the *2020 Census PSAP Standard Respondent Guide (G-730)* for instructions on updating each of the four statistical area types. Refer specifically to *Table 66* to confirm a linear feature is an acceptable statistical area boundary prior to making the boundary correction.

5.3 Introducing GUPS Modifications for the Verification Phase

Recall from the delineation phase, as participants selected the **Modify Area Feature** button to start editing, they were given the choice, through the **Select Editable Layer** window, to begin their edits from the 2020 proposed plan or from the 2010 geographies. For the verification phase this choice is no longer in scope because the 2020 statistical areas are incorporated into the version of shapefiles that will load directly from the Census Bureau’s website into GUPS and the 2010 geography is preloaded for reference purposes only. The **Select Editable Layer** window will not appear when using the **Modify Area Feature** button.

New for the verification phase is a pop-up window, shown in [Figure 3](#), which appears after a county downloads when a participant selects any of the tools to start reviewing the statistical areas. It contains a message about the purpose of the verification phase, verification of statistical areas, not another delineation opportunity.

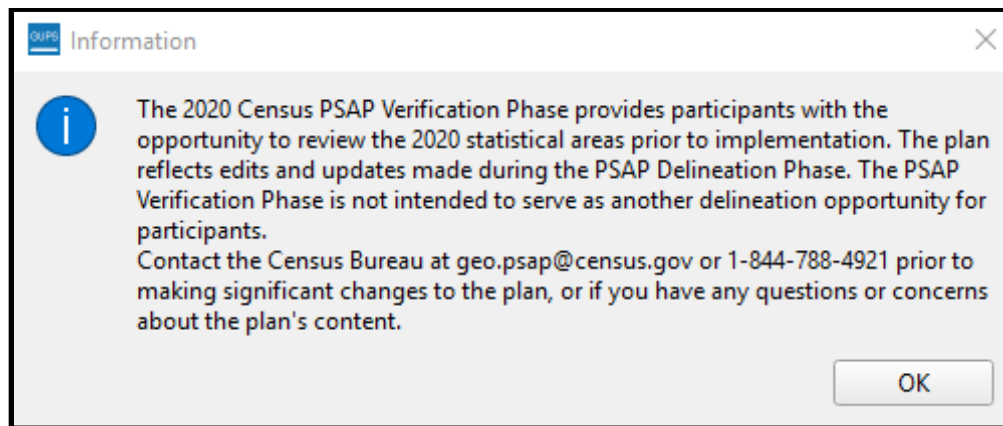


Figure 3: GUPS Information Window

All previously programmed tools and functionality remain in this version of GUPS for the verification phase.

5.4 Reinforcing GUPS Tools for the Verification Phase

Use the *List of Tables* and *List of Figures* within the *Table of Contents* of the *2020 Census PSAP Standard Respondent Guide (G-730)* to help locate the specific table or figure that may assist with completing the corrective action during the verification phase. Most instructions exist in *Chapter 8*. At a minimum, review of the following tables within the *G-730*:

- *Table 12* for a refresher of the **Menu bar** tabs and functions.
- *Table 14* for a refresher of the **Standard toolbar** buttons, names and their function (or description).
- *Table 17* for a refresher of the **PSAP toolbar** buttons, names and their function (or description).

The Table of Contents within GUPS for the verification phase includes the same type of layers as provided during delineation. The edges layer is mapped to display the types of features (roads, linear water, and all others) as well as whether or not those features are acceptable, questionable, or not acceptable for use as a statistical area boundary. Other layers included for reference are the point landmark, minor civil division, incorporated place, various American Indian layers, water, and the county boundary. Layers that are not applicable are grayed-out. The 2010 statistical geographies are also included as a grouping. The layers where corrections may occur include the curtracts, blockgroups, cdp, and ccd. Those layers have preset symbology to assist with visualizing whether they are valid geographies that meet established thresholds. See [Figure 4](#) for a visual of the Table of Contents for a GUPS verification phase project.

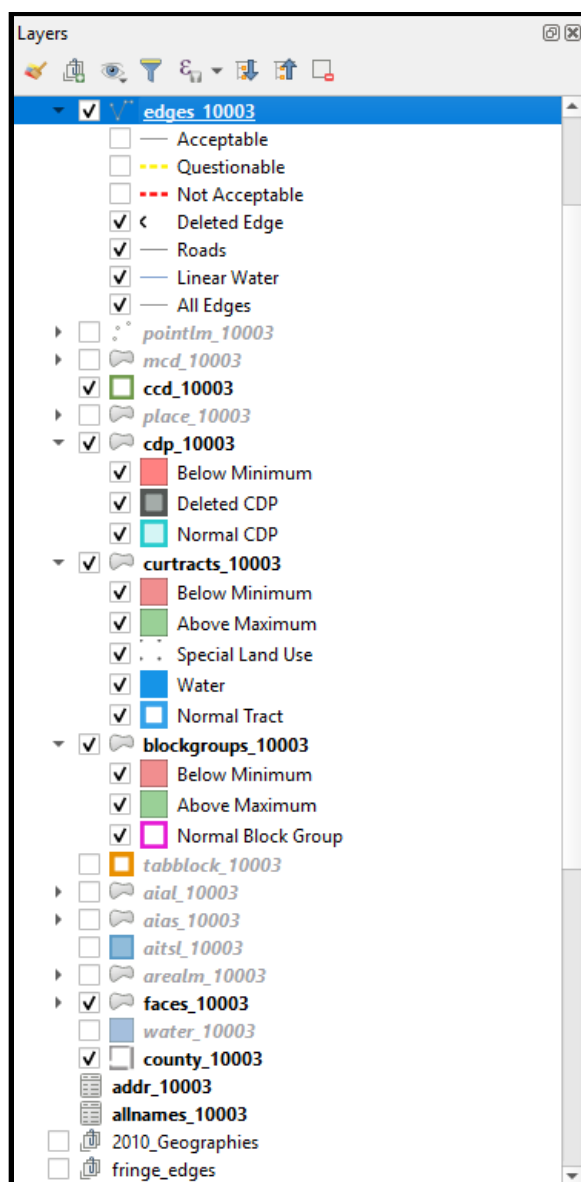


Figure 4: Example of GUPS Table of Contents with Layers

5.4.1 Clarifying Use of the Boundary Change Tools

During processing of delineation phase submissions, the Census Bureau uncovered situations where participants misused GUPS tools and functionality. The most common misuse involved boundary modifications. Instead of using the instructions for performing boundary changes, participants used the merge and split instructions to modify boundaries. Though the boundary modification was seemingly successful, the means by which a participant generated the modification introduced numerous issues with coding, recoding, and suffixing that complicated the processing of participant submissions.

Since the focus of the verification phase is on correcting the 2020 statistical areas that do not align with participant expectations or that may have been misprocessed, participants should use the boundary change tools to correct the 2020 statistical areas, and not the merge or split tools within GUPS. While the merge and split tools remain available for use, please consider the

type of correction that needs to occur and choose the tool that best fits that task. If you have any questions regarding which GUPS tool should be used to make your corrections, contact the Census Bureau by phone at 1-844-788-4921. A member of our technical support group can assist you with your GUPS functionality questions.

Figure 5 highlights the specific boundary change sections for census tracts and block groups in the *2020 Census PSAP Standard Respondent Guide (G-730)*.

9.2.1 Modify Area Feature Tool	79
9.3 Census Tract Update Instructions.....	80
9.3.1 Select Census Tracts.....	80
9.3.2 Split Census Tracts by Block Group	83
9.3.3 Split Census Tract by Face.....	88
9.3.4 Creating a Special Use Census Tract	92
9.3.5 Merge Census Tracts.....	95
9.3.6 Change Census Tract Boundaries.....	101
9.3.6.1 Add Linear Feature.....	105
9.3.6.2 Modify Linear Feature Attributes	109
9.3.6.3 Delete/Restore Linear Feature	110
9.4 Block Group Update Instructions.....	112
9.4.1 Select Block Group	113
9.4.2 Split a Block Group.....	113
9.4.3 Merge Block Groups.....	118
9.4.4 Change Block Group Boundaries.....	122

Figure 5: Census Tract and Block Group Boundary Change Sections in the G-730 Table of Contents

Figure 6 highlights the corresponding boundary change sections in the *2020 Census PSAP Standard Respondent Guide (G-730)* that apply for CDPs and CCDs.

9.5 Census Designated Places (CDPs) Update Instructions	127
9.5.1 Select Census Designated Place (CDP).....	127
9.5.2 Boundary Change – Add Area (CDP)	128
9.5.3 Boundary Change – Remove Area (CDP).....	131
9.5.4 New District – Add Entity (Add a New CDP).....	135
9.5.5 Boundary Change – Delete Area Feature (Delete an Existing CDP).....	139
9.5.6 Boundary Change – Change Attributes (CDP)	142
9.6 Census County Division Update Instructions	144
9.6.1 Select Census County Division (CCD)	145
9.6.2 Merge Census County Divisions (CCDs)	145
9.6.3 Boundary Change – Add Area (CCD)	149
9.6.4 New District – Add Entity (Add a New CCD).....	154
9.6.5 Boundary Change – Change Attributes (CCD).....	157

Figure 6: CDP and CCD Boundary Change Sections in the G-730 Table of Contents

5.4.2 Clarifying Use of the Undo Button

Another action to reinforce and clarify from the delineation phase involves the use of the **Undo** button. The description of the **Undo** button is included within *Table 17* of the *2020 Census PSAP Standard Respondent Guide (G-730)*. For an example, a participant split a census tract that was over threshold, but one of the resulting census tracts ended up below threshold. Instead of

using the **Undo** button to cancel the split action and restore the census tract's original boundary or instead of supplying a justification that supports the split, the participant proceeded to merge the newly suffixed tract with another nearby statistical area, producing an errant census tract coding sequence and redrawing the outer census tract boundary. Neither of which is permissible during 2020 Census PSAP. Please use the **Undo** button rather than merging or splitting a statistical area back to its original boundary.

5.4.3 Reinforcing the Use of Imagery

Should corrections be necessary, use of imagery is strongly recommended. To make spatially accurate boundary corrections, enable imagery from the PSAP toolbar by selecting the **Add Imagery** button. Adding imagery allows participants to visualize the features and alignment of boundaries prior to making corrections. The description of the **Add Imagery** button is included within *Table 17* of the *2020 Census PSAP Standard Respondent Guide (G-730)*.

Note: Uncheck (i.e., turn-off) the imagery layer from the Table of Contents to prevent GUPS issues that may occur when re-opening the PSAP verification phase project.

5.5 Exporting a File for Submission

Upon completion of all statistical area corrections, execute the three validation tools to help review and validate the corrections made to the 2020 statistical areas. Run the **PSAP Criteria Review** tool first, then the **Review Change Polygons** tool, and finish with the **Geography Review** tool. Refer to *Chapter 10* of the *2020 Census PSAP Standard Respondent Guide (G-730)* for instructions on the use of the three validation tools. The **Export to Zip** tool executes these tools if a participant overlooks them.

Upon clicking the **Export to Zip** button, two options for exporting within GUPS remain in the verification phase: **Export for Census** or **Share with Another Participant**. To export the corrected statistical areas for submission to the Census Bureau, select the first choice, **Export for Census** as shown below in [Figure 7](#).

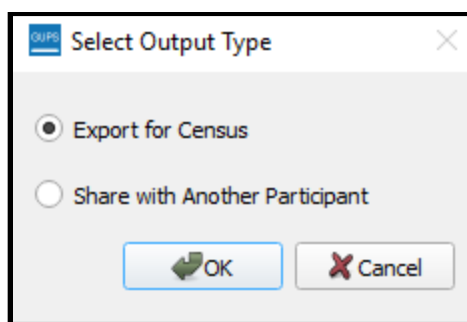


Figure 7: Select Output Type Window - Export for Census

IMPORTANT: Do not submit a partial submission (i.e., just census tracts if corrections are still underway for block groups or CDPs or CCDs). Ensure all of the work is complete prior to executing this tool.

Table 60 in the 2020 Census PSAP Standard Respondent Guide (G-730) describes the export process. The only difference for the verification phase is the directory path and file name. See [Figure 8](#) for an example of the **Export to Zip** window that includes the verification phase directory and file information. Be sure to make note of the directory path and file name.

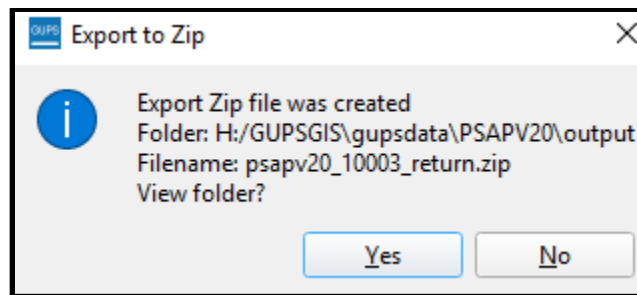


Figure 8: Export to Zip Window for Verification Phase

With the file exported, proceed to the next part of this verification guide for instructions on submitting the .zip file to the Census Bureau.

PART 3 SUBMITTING CORRECTIONS TO THE 2020 STATISTICAL AREAS

This part of the respondent guide provides a refresher for using the Secure Web Incoming Module (SWIM) to submit the corrected 2020 statistical areas. The *2020 Census PSAP Standard Respondent Guide (G-730)* devoted an entire chapter, *Chapter 11*, to the SWIM topic providing background, requirements, and an example of using SWIM to submit the PSAP delineation phase materials. The instructions in [Table 9](#) update the *Chapter 11* example to show the pertinent information for the verification phase.


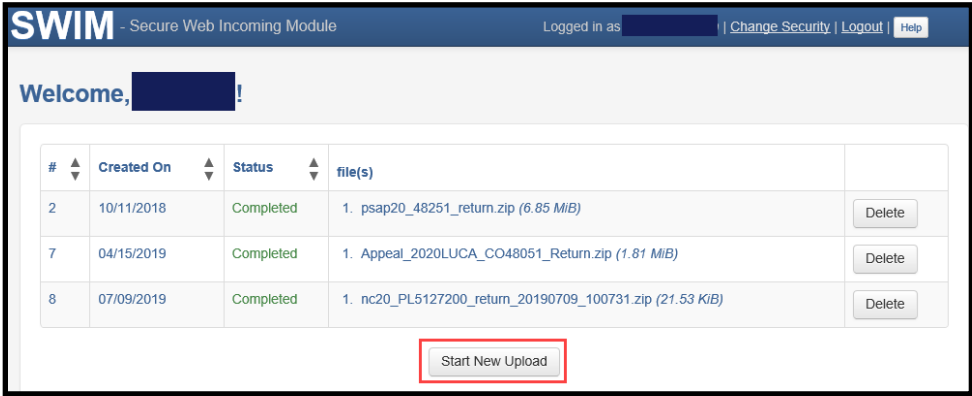
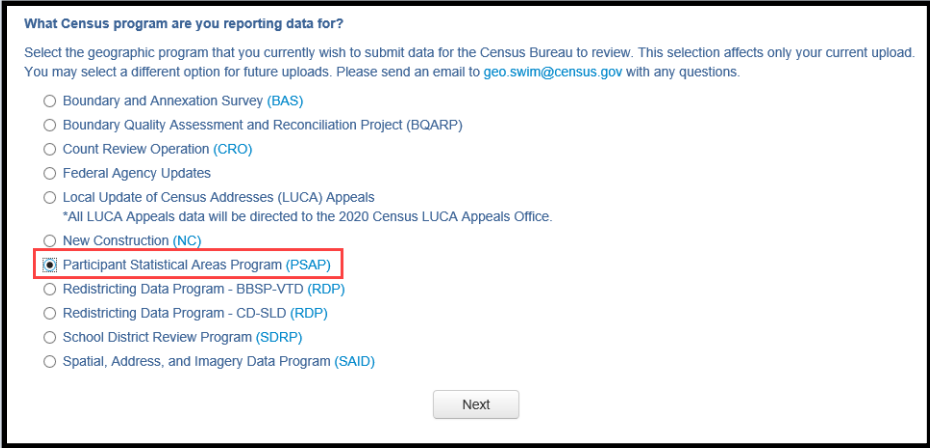
Please submit all corrections to the 2020 statistical areas, by county, within 90 calendar days of receiving the verification announcement. The Census Bureau cannot provide extensions to this 90 calendar day review period. The Census Bureau will review all submissions to ensure they meet the established 2020 Census PSAP criteria and will contact participants if there are questions regarding the submission(s).

CHAPTER 6 USING THE SECURE WEB INCOMING MODULE (SWIM) FOR PSAP VERIFICATION

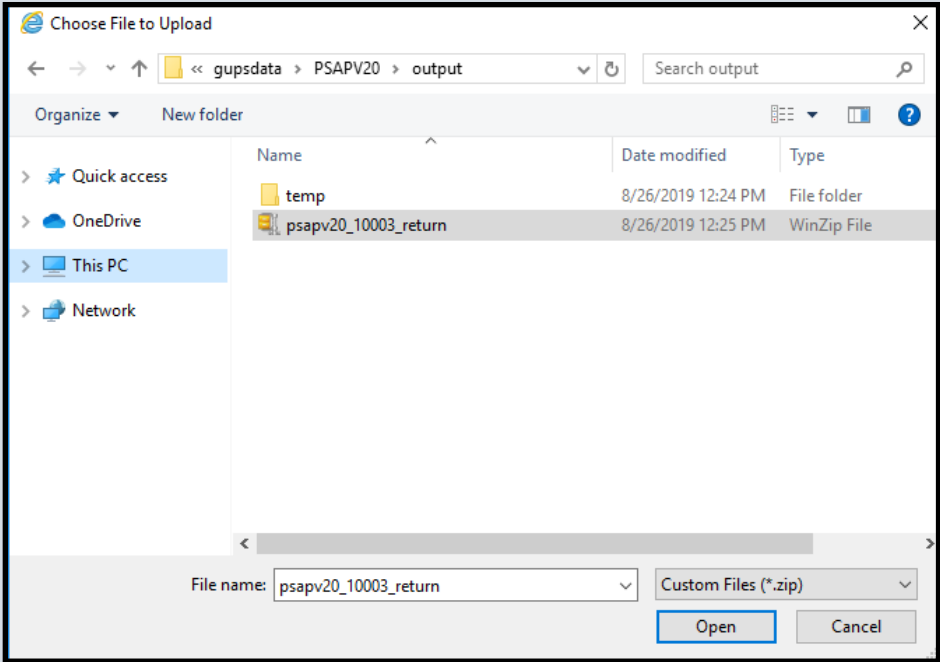
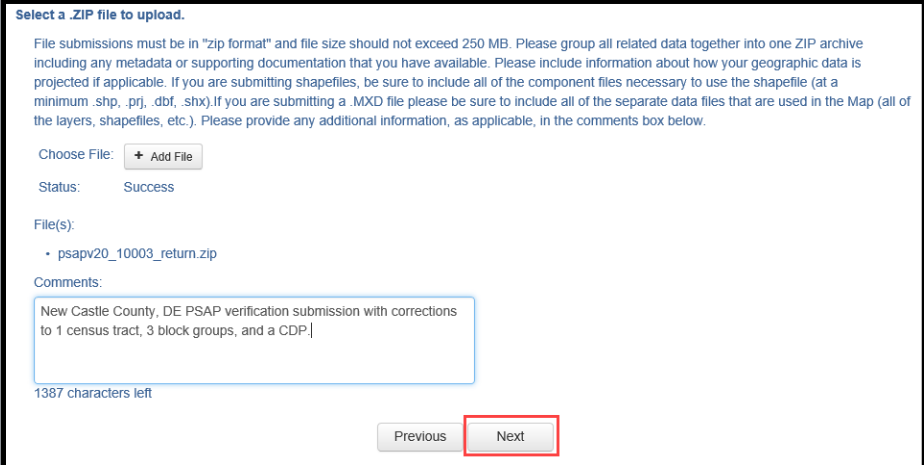
See [Table 9](#) for an example of using SWIM to submit corrections to a county-based 2020 statistical area corrections.

Table 9: SWIM Example

Step	Action and Result
Step 1	<p>Open a new internet browser window and enter the SWIM URL https://respond.census.gov/swim. The Secure Web Incoming Module Please Login screen opens.</p> 

Step	Action and Result
	<p>Refer to <i>Section 11.1</i> the <i>2020 Census PSAP Standard Respondent Guide (G-730)</i> for details on how to determine if an account exists and the SWIM requirements for accounts, passwords, and files submitted using SWIM.</p> <p>Note: We suspect that most participants will have an existing SWIM account since delineation phase materials were submitted through SWIM. For participants without an existing SWIM account, please contact the Census Bureau to receive a 12-digit registration token for account registration.</p>
Step 2	<p>Enter the email address and password, then click the Login button. <i>The Welcome screen opens and previously posted files appear along with the date and status of the upload.</i></p>  <p>Click the Start New Upload button.</p>
Step 3	<p><i>The “What Census program are you reporting data for?” screen appears.</i></p>  <p>Choose Participant Statistical Areas Program (PSAP) and then click the Next button.</p> <p>Note: Unlike with GUPS, there is not a specific program choice for PSAP Verification. The verification phase is part of PSAP, so there was no need to add another program choice in SWIM for the submission of verification phase corrections.</p>

Step	Action and Result
Step 4	<p>The “What type of geography are you reporting statistical areas for?” screen appears with two choices: County and Tribal Area.</p> <div data-bbox="394 306 1321 539"> <p>What type of geography are you reporting statistical areas for??</p> <p><input type="radio"/> County</p> <p><input type="radio"/> Tribal Area</p> <p>Previous Next</p> </div> <p>Choose County and then click the Next button.</p>
Step 5	<p>The Select a State and County screen appears.</p> <div data-bbox="446 665 1271 987"> <p>Select a State and County</p> <p>State: <input type="text" value="Select"/></p> <p>County: <input type="text"/></p> <p>Previous Next</p> </div> <p>Choose the appropriate state and county name and then click the Next button.</p>
Step 6	<p>The Select a .ZIP file to upload screen appears. Click the +Add File button.</p> <div data-bbox="386 1113 1331 1581"> <p>Select a .ZIP file to upload.</p> <p>File submissions must be in "zip format" and file size should not exceed 250 MB. Please group all related data together into one ZIP archive including any metadata or supporting documentation that you have available. Please include information about how your geographic data is projected if applicable. If you are submitting shapefiles, be sure to include all of the component files necessary to use the shapefile (at a minimum .shp, .prj, .dbf, .shx). If you are submitting a .MXD file please be sure to include all of the separate data files that are used in the Map (all of the layers, shapefiles, etc.). Please provide any additional information, as applicable, in the comments box below.</p> <p>Choose File: <input type="button" value="+ Add File"/></p> <p>Status:</p> <p>File(s):</p> <p>Comments: <input type="text"/></p> <p>1500 characters left</p> <p>Previous Next</p> </div>

Step	Action and Result
Step 7	<p>The Choose File to Upload window opens for use in navigating to the location of the exported .zip file generated by using the Export to Zip button in GUPS. Click the Open button.</p>  <p>Notice the Status is set to Success and the file name appears beneath the File(s) section. Add optional comments that may assist the Census Bureau with processing of the submission and click Next.</p> 

Step	Action and Result
Step 8	<p>The Thank You screen appears. It thanks the participant and indicates a forthcoming email once the transfer completes.</p> <div data-bbox="365 304 1351 520"> <p>Thank You</p> <p>Thank you for using SWIM. You will receive an email when your file successfully transfers to the Census Bureau.</p> <p>File: psapv20_10003_return.zip</p> <p>You may Log Out or return to the upload form, to submit more files.</p> </div> <p>In the last sentence on the Thank You screen, choose upload form to return to the Welcome screen and begin the upload process for another county or choose Log Out.</p>

CHAPTER 7 NEXT STEPS FOR THE 2020 CENSUS PSAP

Congratulations on the completion of your review of the 2020 statistical areas and of your corrections, if applicable. Your participation in the 2020 Census PSAP concluded with either the email stating no changes were forthcoming or with the submission of verification phase corrections in the county based .zip file(s) from GUPS. Thank you for participating in this program to prepare useful statistical areas for the 2020 Census. Knowledge provided by PSAP participants is invaluable.

The Census Bureau will process the corrections and finalize the 2020 statistical areas for use in tabulating census data for the next decade. The final data will be made available to the public on the Census Bureau website beginning in November 2020 through February 2021.

APPENDICES


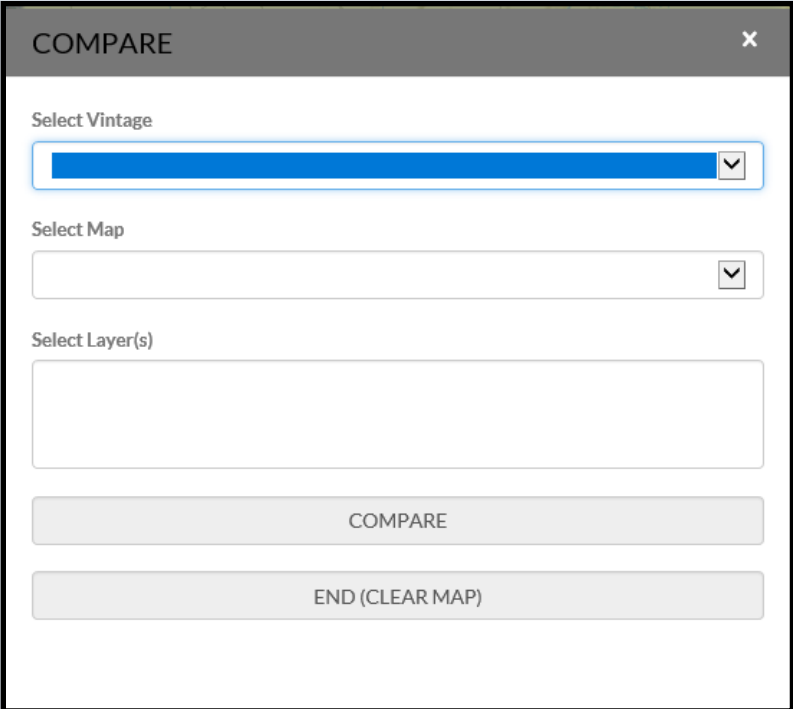

APPENDIX A USING TIGERWEB TO COMPARE 2020 STATISTICAL AREAS TO 2010 STATISTICAL AREAS

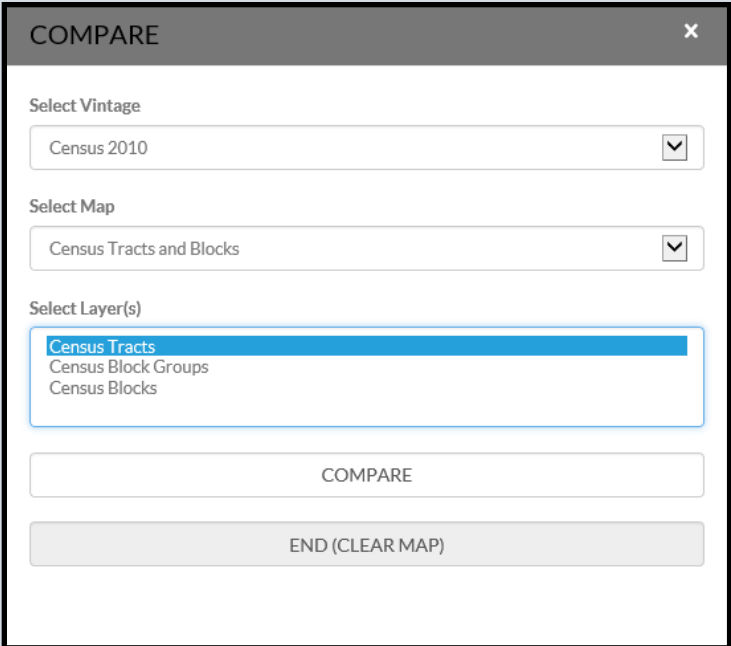
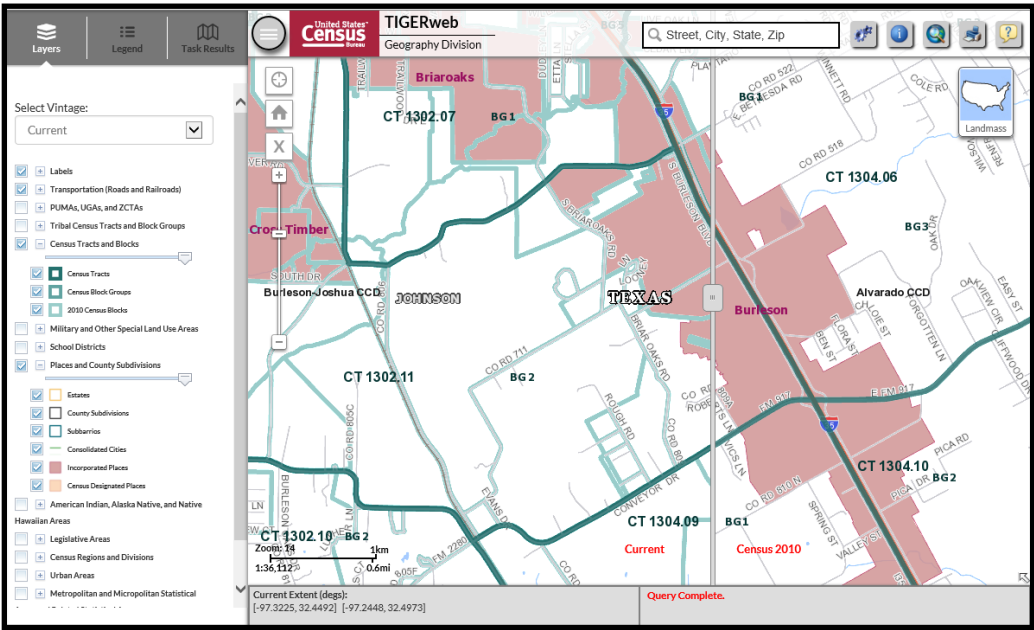
For participants that completed their delineation phase work from the 2010 statistical areas instead of from the 2020 proposed plan, using the TIGERweb **Compare** tool to visualize the changes between the 2020 statistical areas and the 2010 statistical areas may help with locating statistical areas that have changed significantly. **Table 10** presents the steps for comparing the two vintages.

IMPORTANT: While conducting a comparison between 2020 and 2010 statistical areas is possible using this tool, a participant's focus should remain on whether the existing 2020 statistical areas work for the tabulation and distribution of statistical data and whether any attribute errors exist.

Table 10: Comparing 2020 and 2010 Statistical Areas in TIGERweb

Step	Action and Result
Step 1	<p>To compare the Current vintage to the 2010 Census vintage, launch the TIGERweb online application from the TIGERweb website: <https://tigerweb.geo.census.gov/tigerwebmain/TIGERweb_main.html>.</p> <p>Using the instructions presented in Section 2.1, zoom manually or through a query to the area of interest for comparison.</p>

Step	Action and Result
Step 2	<p>Click the Compare button along the upper right of the TIGERweb window.</p>  <p>The Compare window appears.</p> 
	<p>While this comparison does not compare what was submitted during the delineation phase, it does allow for visual comparison between the current 2020 statistical areas and the 2010 statistical areas which may help identify statistical areas splits or merges that occurred as a result of delineation phase processing.</p>

Step	Action and Result
Step 3	<p>Select the Vintage to compare (e.g., Census 2010), Select the Map to compare with the current (e.g., Census Tracts and Blocks), and Select the Layer (e.g., Census Tracts) and click COMPARE.</p> 
Step 4	<p>A light gray, vertical slide bar appears on-screen with the Current vintage displayed on the left and the Census 2010 vintage on the right. Click the bar to move it left or right and reveal the change of boundaries between the vintages. Large changes are easily viewed on-screen, but smaller modifications to the boundaries are more difficult to see.</p>  <p>Note: This example does not depict any boundary differences, but does show the light-gray, vertical slide bar mid-screen and the red label for “Current” and “Census 2010” at the bottom of the screen.</p>

Step	Action and <i>Result</i>
Step 5	Changing the Select Map... choice to Places and County Subdivisions and then selecting either the County Subdivisions or Census Designated Places as the Layer allows for a vintage comparison of the CCDs and CDPs, respectively. Repeat the same steps listed above to compare the CCDs and CDPs.

APPENDIX B CHANGING THE MAP BACKGROUND WITHIN THE TIGERWEB ONLINE MAP VIEWER

The TIGERweb online map viewer has three choices for the map background it displays: Landmass, Satellite, and Terrain. These three choices are housed within the Topography button which is in the upper right corner of the map display, beneath the five tool buttons. The Topography button is also known as the Base Map Selector in the TIGERweb User Guide. See [Figure 9](#) for a visual of the button and its location within the TIGERweb online map viewer.



Figure 9: TIGERweb Topography Button

The default selection is Landmass. To switch displays, continue to click the Topography button, observing the instruction while hovering the mouse over the button. The hover message informs the user of the current display and what the display will be upon switching to the next choice. See [Figure 10](#) for a visual that illustrates changing between base map background choices and how the hover messages compare to what is on-screen. In the example below, though the image on the left shows the Topography button indicating the graphic for the Satellite selection, the hover message indicates the current selection is Landmass. The satellite imagery does not display until clicking the button again to change the display to Terrain. Terrain would not display until clicking the button back to Landmass.



Figure 10: Topography Button with All Base Map Choices

Use of satellite imagery and terrain base map backgrounds help to identify and visualize the features that the 2020 statistical area boundaries follow and may provide valuable insight to understanding if corrections need to be made.

APPENDIX C ADDING A DELINEATION PHASE SUBMISSION TO A VERIFICATION PHASE PROJECT

Participants may add their delineation phase submission files into their verification phase GUPS project. Doing so provides a visible reference for use during interactive GUPS work to correct the discrepant statistical area boundaries.

IMPORTANT: While having the delineation files available for reference during verification is nice, the Census Bureau strongly encourages participants to focus on the current 2020 statistical areas and whether they work for the tabulation and distribution of statistical data.

Refer to *Section 8.3* and *Table 28* within the *2020 Census PSAP Standard Respondent Guide (G-730)* for detailed instructions on the proper use of the **Add Vector Layer** button and for changing layer symbolization or call the Census Bureau at 1-844-788-4921 for assistance. As a high level summary for adding the delineation submission shapefiles into the verification phase project, follow these steps:

- Navigate to the directory location of the delineation phase .zip file (i.e., **PSAP20_<ssccc>_return.zip**). As noted previously in the document, the <ssccc> corresponds to the five-digit, state county FIPS code for your county(s). The default directory was likely **C:\GUPSGIS\gupsgisdata\PSAP20\output**, but you may have copied the file to another directory for storage reasons or to archive it for safe-keeping.
- Unzip the delineation phase submission .zip file.
- Utilize the **Add Vector Layer** button within the **Manage Layers** toolbar, as highlighted below in **Figure 11**, to add in the “complete” shapefiles for the statistical areas (e.g., blockgroups, ccd, cdp, and curtracts). Participants may wish to add in the “changes” shapefiles that show only the polygons for the statistical area layers that were changed during delineation. Adding in the “changes” shapefiles do not provide a complete visual of the delineation phase submission, but they may be useful as a reference to identify the specific areas changed during delineation.
Note: Ensure layers being added use the NAD83 coordinate system. Do not add layers into GUPS in coordinate systems other than NAD83.

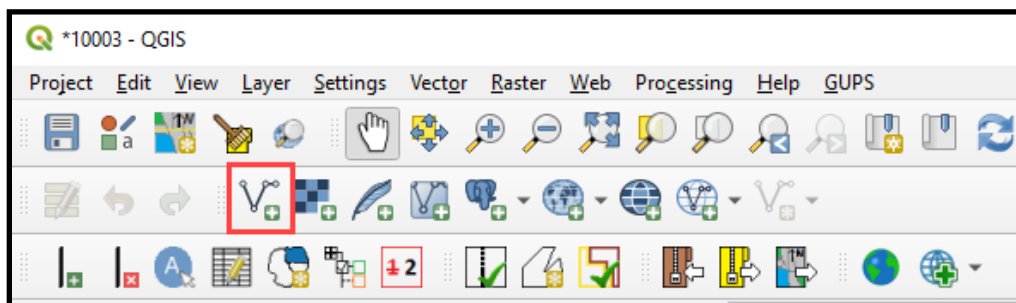


Figure 11: GUPS - Manage Layers toolbar - Add Vector Layer button

- Change the symbolization of the added shapefiles to view them properly within the verification phase project. Depending on where the added shapefiles appear in the Table of Contents, symbolization changes can occur to the outline, pattern, transparency, color, layer order, etc.

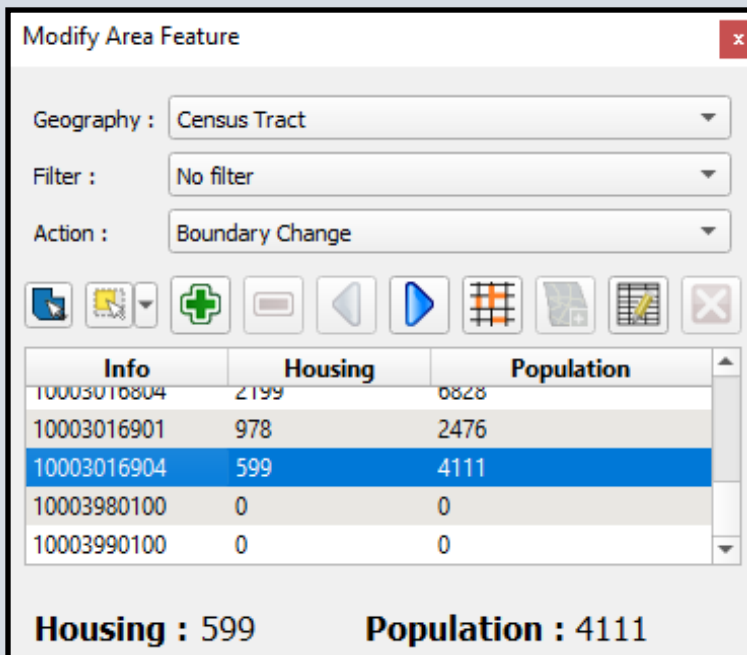
With updated symbology and the ability to turn on/off layers, participants can visualize the differences between the delineation and verification phase statistical area boundaries to assist

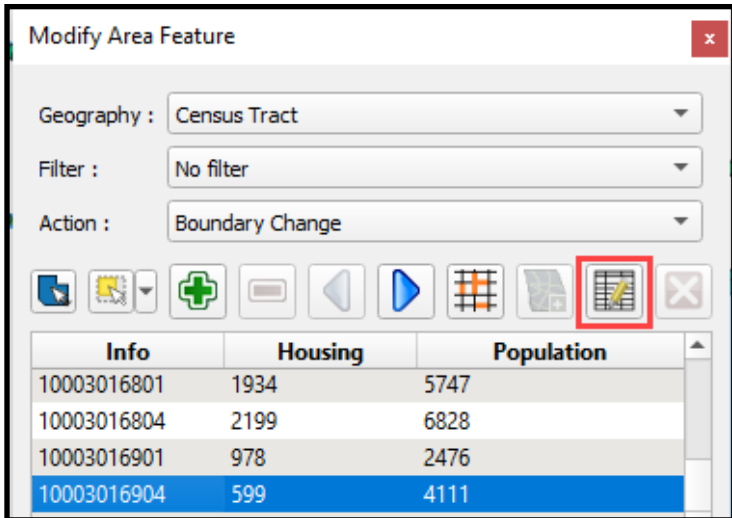
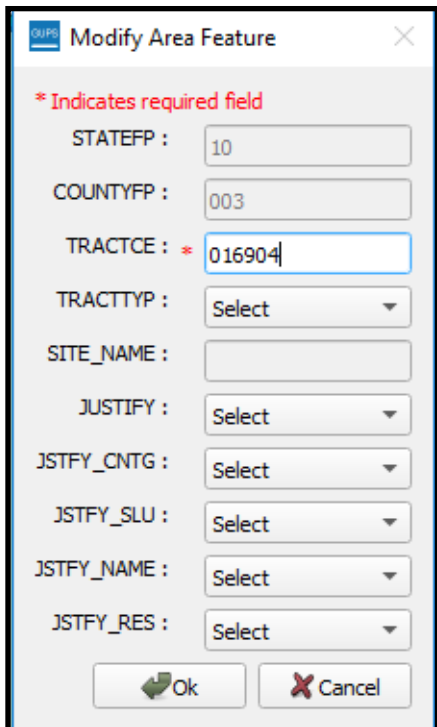
with making corrections during the verification phase. Refer to *Sections 9.3, 9.4, 9.5, and 9.6* of the *2020 Census PSAP Standard Respondent Guide (G-730)* for instructions on making census tract, block group, CDP, and CCD boundary corrections, respectively.

APPENDIX D CORRECTING CENSUS TRACT CODING

Whether an errant census tract code is discovered using TIGERweb or using the Online PDF maps use the instructions below in [Table 11](#) to correct the census tract coding using GUPS.

Table 11: Using GUPS to Correct Census Tract Coding

Step	Action and Result
Step 1	With the verification project opened within GUPS, open the Modify Area Feature tool and set the Geography to Census Tract .
Step 2	<p>Scroll through the list of census tracts, shown in the Info section of the Modify Area Feature tool and select the census tract to correct. In the example below, census tract 169.04 is selected.</p>  <p>Note: This example is for illustrative purposes only.</p>

Step	Action and Result															
Step 3	<p>With the census tract selected, click the Change Attributes button to open a secondary Modify Area Feature window that allows participants to edit the census tract code field, TRACTCE.</p> <div><table><thead><tr><th>Info</th><th>Housing</th><th>Population</th></tr></thead><tbody><tr><td>10003016801</td><td>1934</td><td>5747</td></tr><tr><td>10003016804</td><td>2199</td><td>6828</td></tr><tr><td>10003016901</td><td>978</td><td>2476</td></tr><tr><td>10003016904</td><td>599</td><td>4111</td></tr></tbody></table></div> <div><p>* Indicates required field</p><p>STATEFP : 10</p><p>COUNTYFP : 003</p><p>TRACTCE : * 016904</p><p>TRACTTYP : Select</p><p>SITE_NAME :</p><p>JUSTIFY : Select</p><p>JSTFY_CNTG : Select</p><p>JSTFY_SLU : Select</p><p>JSTFY_NAME : Select</p><p>JSTFY_RES : Select</p><p>Ok Cancel</p></div>	Info	Housing	Population	10003016801	1934	5747	10003016804	2199	6828	10003016901	978	2476	10003016904	599	4111
Info	Housing	Population														
10003016801	1934	5747														
10003016804	2199	6828														
10003016901	978	2476														
10003016904	599	4111														
Step 4	Using local knowledge, correct the census tract code. Refer to <i>Section 2.2</i> in the <i>2020 Census PSAP Standard Respondent Guide (G-730)</i> for details on proper census tract coding.															
Step 5	Save the project after performing a census tract coding change.															